

Vol. XIX.

No. 1.

The
NAC
Review

OCTOBER

1906

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TELLS

\$40 a year
is often **LOST**

By using Cream Separators in which the bearings wear very rapidly, leading IN A FEW MONTHS to vibration and a consequent imperfect separation.

The Melotte Cream Separator



Runs as steadily and consequently skims as well **after several years' use** as when new, because it is constructed with frictionless self-balancing bowl and upright gear spindles, all turning in oil on ball bearings. For other advantages, see descriptive price list.

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While we claim this for the NATIONAL, we don't expect it to be accepted without proof, although the well-known success of the NATIONAL in all impartial tests, as well as the general verdict of the great army of users, verify the fact that

THE NATIONAL IS THE BEST

We ask you to give it a trial and see for yourself that it is the perfection of

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MISS ROSE, of the Travelling Dairy in the Maritime Provinces, uses the NATIONAL.

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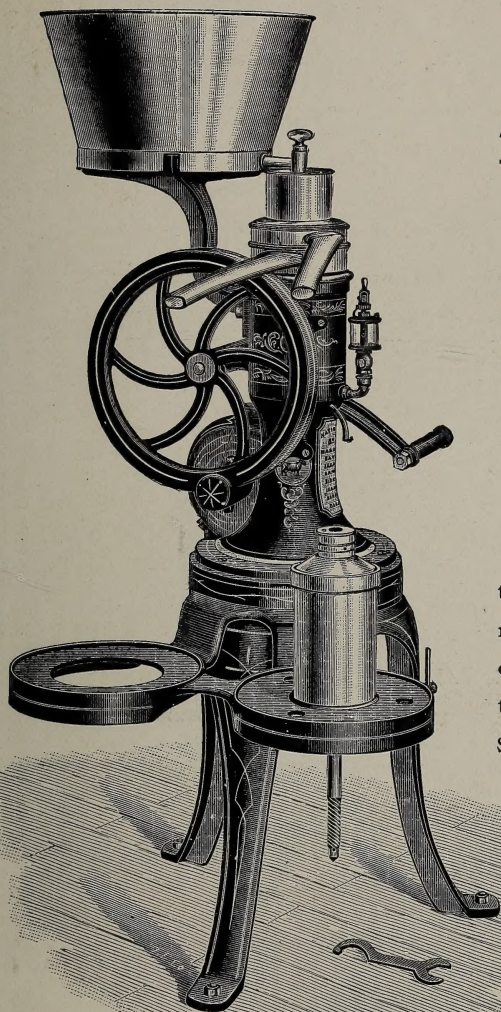
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Please mention the O. A. C. REVIEW when answering advertisements.



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We are Up-to-Date Manufacturers. ARE YOU an Up-to-Date Creameryman? Write us when in the market for anything needed in your factory. We will be in a position to fill your order, as we carry everything in stock from Engines and Boilers down to the Ladle and Packer. We will be pleased to quote you prices on anything you may require. : : : : :

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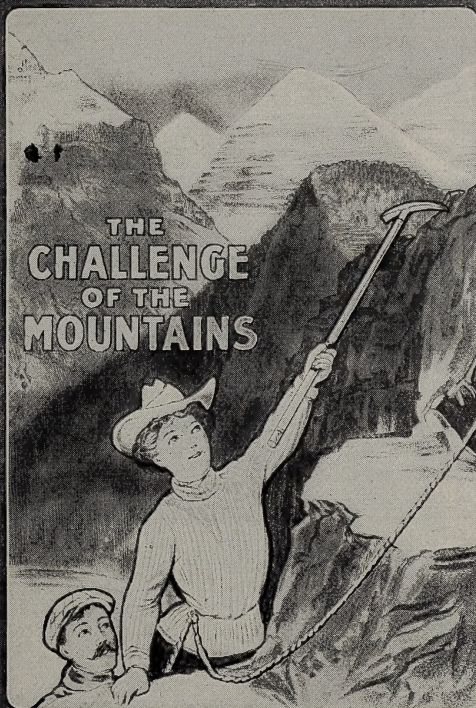
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Where the greatest works of man are dwarfed into insignificance beside this marvellous handiwork of nature. The most charming locality for a holiday on the continent of America. Excellent train service and Splendid Hotels.

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Write for "Challenge of the Mountains."

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In the latter case it will pay you to investigate
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NEW ONTARIO

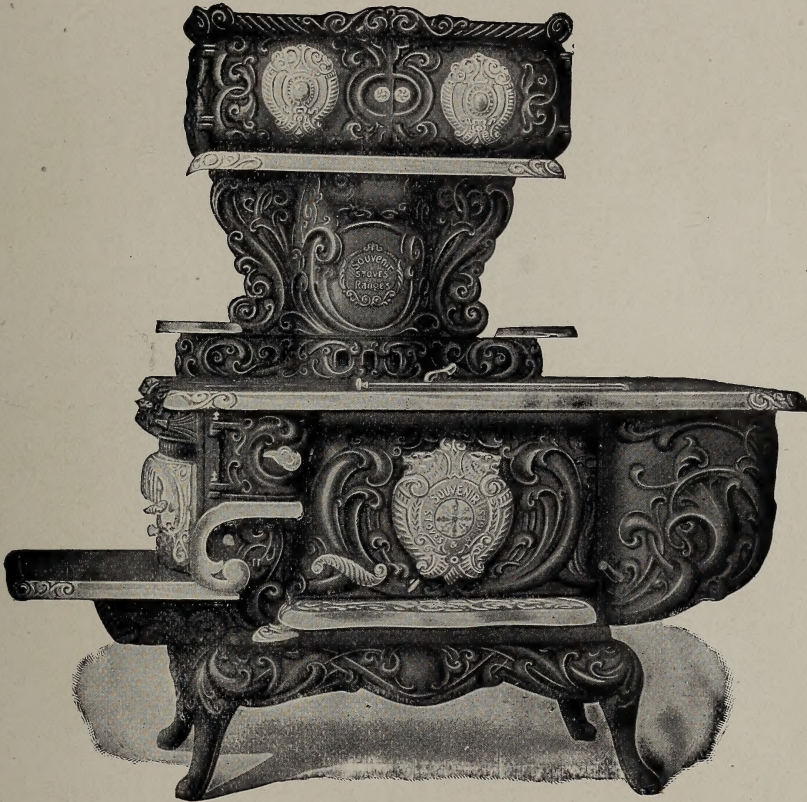
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Hon. Frank Cochrane

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TORONTO.

"Souvenir" Superiority



The superiority of the "SOUVENIR" is so apparent that it takes mighty little talk to convince the most skeptical. The "Aerated" Oven alone puts it on a plane where it is a standard for other makers, to which they are vainly trying to attain.

Handsomely fitted up, perfectly appointed, and for general good service, without a fault.

Manufactured by

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Western Agents: ***Tilden, Gurney & Co., Limited, Winnipeg.***

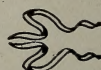
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Improved



Victor Clover Mills

WITH OUR CELEBRATED
"A-A" WINDSTACKER . . .

But You'll Have to Hurry.

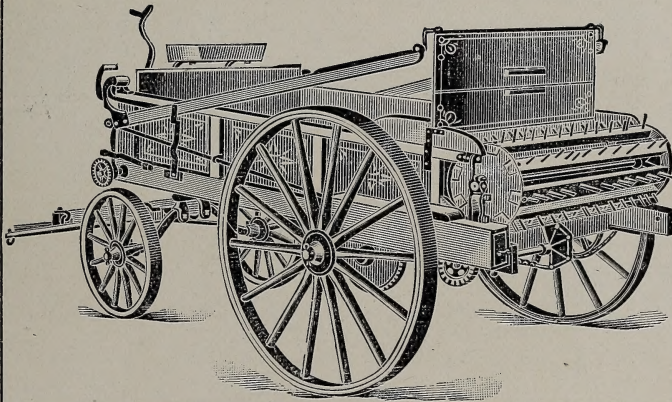
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AMERICAN-ABELL ENGINE AND
THRESHER COMPANY, LIMITED
TORONTO.

MASSEY-HARRIS MANURE SPREADER



With it you can spread manure much more quickly and more evenly than by hand, or with any other machine. It cannot clog. Spreads evenly from start to finish. Thus each plant gets the right amount of nourishment. You can regulate the amount spread, stop, start and reverse without stopping the team. It saves labor and increases crops.



Apron runs on rollers, works easily.

Apron has positive automatic return.

"Tight Box" handles all kinds of manure without waste, and is handy for drawing in roots, etc.

It has wide-tire wheels—won't sink down in soft ground.

It has low front wheels—can be turned in close quarters.

Front axle is short — tongue does not whip on rough ground.

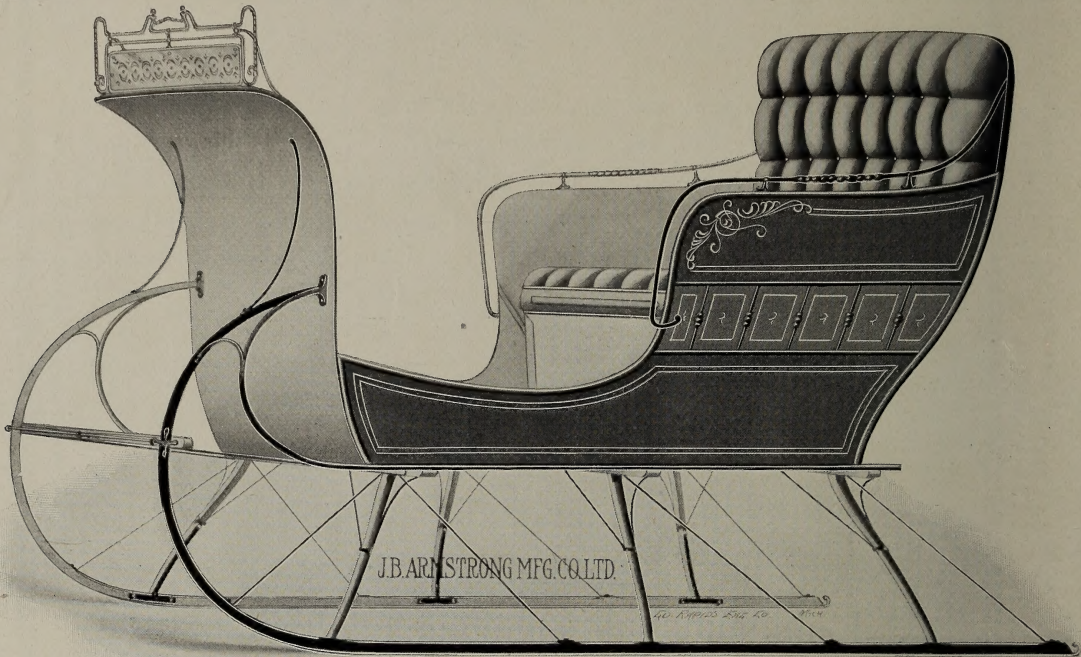
Safety board prevents breakage and ensures even spreading at the start.

Frame is strongly trussed.

MASSEY-HARRIS CO., LIMITED.

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Fine Finished Carriages and Cutters



No. 14 - PORTLAND.

One of our many nice, comfortable, roomy cutter styles now ready for the coming winter. Catalogue illustrating and describing all mailed free for the asking.

O. A. C. Students ! Call and see our factory.

Ex.-O. A. C. Students ! Glad to have your mail enquiries.

J. B. Armstrong Mfg. Co., Limited

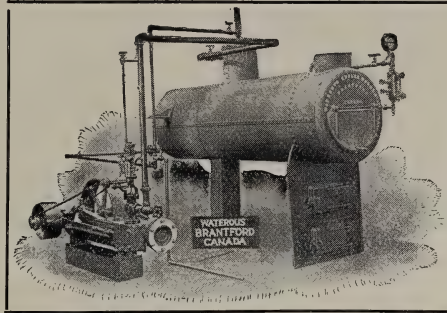
(The Guelph Carriage Goods Co.)

Montreal Branch,
120 Craig St. West.

GUELPH, Canada.

Our Dairy Outfit

**Most Complete
in
Every Detail.**



**Estimates and Prices
Furnished
on Application.**

***Waterous Engine Works Company
Brantford, Canada.***

- Also manufacturers of -

***Sawmill and Pulp Machinery, High Speed Automatic
Engines Boilers, Etc.***



Beauty and Solid Comfort

BRICK FIREPLACES
made from

Milton Brick

Are not only useful, but are
decidedly o namental in a room.
The cost is reasonable. Send for
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Milton Pressed Brick Co., Limited

Works and Head Office, MILTON, ONT.

It Pays to Pay for Quality

Indifferent printing can impair the effect of the most skillfully written advertising. It takes ability, fair prices, good workmanship, and plenty of the right kind of experience, to produce thoroughly good Printing. We are makers of good Printing—the kind that will produce satisfactory returns to you for the money expended. Our good printing costs less than some inferior kinds. See our samples. Get our prices.

ADVERTISER JOB - LONDON, ONT.
Phone, One-Seven-Five.

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The Great Practical
Training Schools of
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**Absolutely Thor-
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High-Grade.**

The Most Expert
20th Century Methods.
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Highest Scholastic At-
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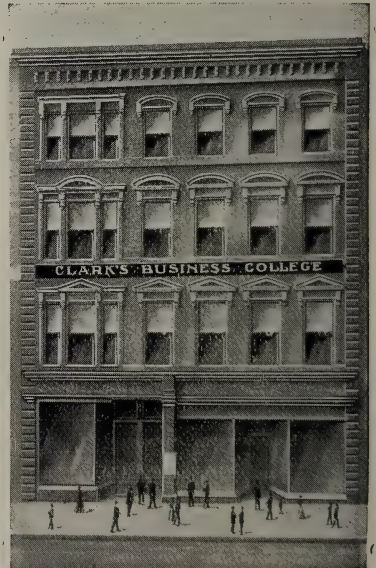
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Clark's Business Institute, Buffalo,
accommodating 800 students.



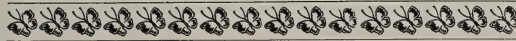
Clark's Business College, Hamilton.

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Come With Us to the Kandy Kitchen

It is the Popular Resort for
College Students.



“K. K.”

Ice Cream
Sodas
Candies are

“O. K.”

UPPER WYNDHAM ST.

GUELPH, ONT.





Reproduced Photograph of J. W. Young's Barn,
Ryckman's Corners, Ont.

A Paroid Roof

The roof that lasts and anybody can lay. Thousands of the most progressive farmers, dairymen and poultrymen, as well as railroad companies and the U. S. Government, are using Paroid for roofing and siding in preference to all others, because they have PROVED that Paroid is

The Most Economical
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This is Why : It is made of extra strong felt, with an extra good saturation which makes it proof against sparks, cinders, water, heat, cold, acids and gasses. Light slate color; contains no tar; does not run, nor crack and does not taint rain water. Don't be put off with a cheap imitation. Get the economical Paroid—the roof that lasts.

SEND FOR FREE SAMPLE and name of nearest dealer. Investigate for yourself. For a 2-cent stamp we will send new book of complete plans for poultry and farm buildings.

F. W. Bird & Son

Makers

Hamilton, Ont.

(Originators of the free Roofing Kit—fixtures for applying in every roll.)
Established 1877 in U. S.



The Ontario Provincial Winter Fair

Will be held at, GUELPH, ONT.,

December 10th to 14th, 1906

Exhibits will consist of Beef and Dairy Cattle, Sheep, Swine, Poultry and Seeds. There will also be a Judging Competition.

Interesting and Practical Lectures will be given.

Entries should be made before November 24th.

Single Fare Rates on Railways.

For Prize Lists, Programmes, etc., apply to

ARTHUR JOHNSTON,
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A. P. WESTERVELT,
Secretary, Parliament Buildings, Toronto

Education Department Calendar for 1906

IN PART.

October.

1. Ontario Normal College opens.
- Night Schools open (session 1906-1907).
- Notice by Trustees of cities, towns, incorporated villages and township Boards to Municipal Clerks to hold Trustee elections on same day as Municipal elections, due.

November.

9. King's Birthday (Friday).

December.

1. Last day for appointment of School Auditors by Public and Separate School Trustees.
- Municipal Clerks to transmit to County Inspectors statement showing whether or not any county rate for Public School purposes has been placed upon Collector's roll against any Separate School supporter.
10. County Model Schools Examination begins.
11. Returning Officers named by resolution of Public School Board.
- Last day for Public and Separate School Trustees to fix places for nomination of Trustees.
14. Local assessment to be paid Separate School Trustees.
- County Model Schools close.
15. Municipal Councils to pay Secretary-Treasurer of Public School Boards all sums levied and collected in township.

County Councils to pay Treasurers of High Schools.

18. Provincial Normal Schools close. (First term).
20. Last day for notice of formation of new school sections to be posted by Township Clerks.
21. High Schools first term, and Public and Separate Schools close.
25. Christmas Day (Tuesday).
- High School Treasurers to receive all moneys collected for permanent improvements.
- New Schools and alterations of School boundaries go into operation or take effect.
- By-law for disestablishment of Township Boards, takes effect.
26. Annual meetings of supporters of Public and Separate Schools.
29. Reports of Principals of County Model Schools to Department, due.
- Reports of Boards of Examiners on Third-Class Professional Examination, to Department, due.
31. Protestant Separate School Trustees to transmit to County Inspector names and attendance during the last preceding six months.
- Trustees' Reports to Truant Officer, due.
- Auditors' Reports of cities, towns and incorporated villages to be published by Trustees.

Departmental Examination papers may be purchased from the Carswell Co., Adelaide St. East, Toronto.

Steele-Briggs' Seeds

are

Noted Everywhere

for their

Purity and Reliability

Send us your name for our splendid

Illustrated Catalogue for 1907

It's full of good things for the Farm and Garden. Also many valuable introductions which are sure to interest Farmers, Gardeners and Amateurs.

THE STEELE-BRIGGS SEED CO.

Limited

TORONTO HAMILTON WINNIPEG

The O. A. C. Review

Published Monthly During the College Year
by the Students of the Ontario Agricultural College, Guelph, Canada.

THE DIGNITY OF A CALLING IS ITS UTILITY.

VOL. XIX.

ONTARIO AGRICULTURAL COLLEGE
OCTOBER, 1906.

No. 1

A Short Tour in Switzerland.

BY W. P. GAMBLE.



AMONG the innumerable places offering attractions to the summer tourist, there are few, perhaps, that can compare in magnificence and natural grandeur with the Alps. In looking over geographical maps, we find that the Alps are divided into Swiss and French. Nature, however, takes no notice of such distinctions. The region of the Alps is one, and as admirable on one side as the other; in fact, the connected whole is essential to the general impression of majesty and grandeur. In travelling through this wonderful land, some of the chief places of attraction are: The Lake of Geneva, or, as the French call it, Lac Léman; the Lakes of Thouné, Brienz and Lucerne; the Valleys of the Rhone and Zermatt; the glaciers of the Jungfrau and Mont-Blanc; and the cities, Geneva, Lausanne, Bern, Interlaken and Lucerne. A brief description of some of these places will form the subject of our narrative.

Starting on our trip we first arrive at Lake Geneva, which is formed by the

Rhone and extends from Villeneuve to Geneva, a distance of 46 miles. The north or Swiss bank of the lake that touches the Alps at one extremity and the Jura at the other, presents two regions very distinct from an agricultural and picturesque point of view. The lower part of the country from Geneva to Lausanne is not very mountainous, and is covered with vineyards and orchards. The higher part, from Lausanne to Villeneuve, on the other hand, is almost entirely given over to vineyards. The mountains in this part gradually approach the lake in whose clear and limpid waters their summits are beautifully reflected.

The Savoy offers a remarkable contrast to the Swiss shore. Different cultivation, rare vines, densely-wooded forests, then the Alps that appear to rise out of the water. From Evian to Geneva the mountains and woods recede from the shore. Here we see meadows, orchards and gardens succeeding one another, and here and there villas, castles and palaces, all modern and of diverse architecture,

take the place of towns and villages which are so numerous on the Swiss side.

The great beauty of the lake, the picturesque aspect of its banks and the varied splendors of the mountains fully justify the preference of tourists for the shores of this charming sheet of water. To those whom the life of a city fatigues, and yet who do not wish to exile themselves too far from literary,



THE FUNICULAIRE RAILWAY.

artistic, and commercial centres, the shores of Lake Geneva afford all the pleasures of a country watering place with proximity and different resources of city life. Geneva and Lausanne, beautiful towns, may be reached easily from any point on the lake.

The City of Geneva is situated at the south end of the Lac Lemman. The

Rhone divides the town into two parts; on the left bank lies the old town—the Geneva of Calvin, with its hilly streets ascending to the Cathedral terrace. The newer part of the city is on the right bank, and is called the Quartier St. Gervais. Since the removal of the old fortifications, however, both parts of the city have extended with great rapidity, so that to-day we see the new Geneva; the industrial, artistic, intellectual Geneva, which devotes the better part of its revenue to the education of its children; an opulent and lettered city, justly proud of its great university establishments and of its magnificent collections; a palatial city, whose superb edifices are mirrored in the waters of the lake. When to these charms are added those of historic interest—the history of the Reformation, and of the long struggles between the Republic and the Duke of Savoy—we can understand, in part, the enchantment that brings tourists again and again to this eminently attractive place.

Leaving Geneva the tourist may proceed by steamer to Ouchy and thence by a funicular railway to Lausanne. The latter city occupies a commanding situation on the terraced slopes of Mont Jorat. Lausanne, with its steep, hilly streets, and its three terraces, separated by deep ravines, is extremely attractive and is a favorite resort of tourists.

From Lausanne to Bern the traveler is kept in a constant state of excitement by the great beauty and variety of the Alpine scenery. As the train winds its way across the broken country, we catch glimpses of small streams in which are reflected the rugged outlines of the overhanging banks; anon we see the Swiss laborer struggling to gather his



CLIMBING THE JUNGFRAU.

crop from some steep hillside; as we move along, snow-capped peaks attract our attention; then an impetuous torrent is seen, flashing foam as it rolls down the enormous rocks, and is scattered into rain by a thousand obstacles; suddenly immense pyramids rise up, disappear and appear again, only to hide themselves once more. The whole journey is a series of wonders. Everywhere nature is wild, majestic and awe-inspiring. It is of an entirely different order from anything seen in England, where the chief charm in the scenery consists in a sense of peacefulness and repose.

On arrival at Berne the traveller finds himself in one of the most picturesque cities in Switzerland, with its medieval

arcaded streets, and fountains ornamented with grimacing statues. It is a great mistake to imagine that the sole attraction in Berne is the bears. The city is celebrated for its splendid views of the Alps, and the phenomenon of the "Alpine glow" is seen here to great advantage. Berne also boasts a splendid university, which is well worthy of a visit.

We visit Thun, a quaint old town, lying on the bank of the River Aare. All the open spaces in the town command splendid views of the snowy peaks of the Brumlisalp and Doldenhorn.

From Thun we proceed, by way of the lake bearing the same name, to Interlaken. As the steamer furrows the

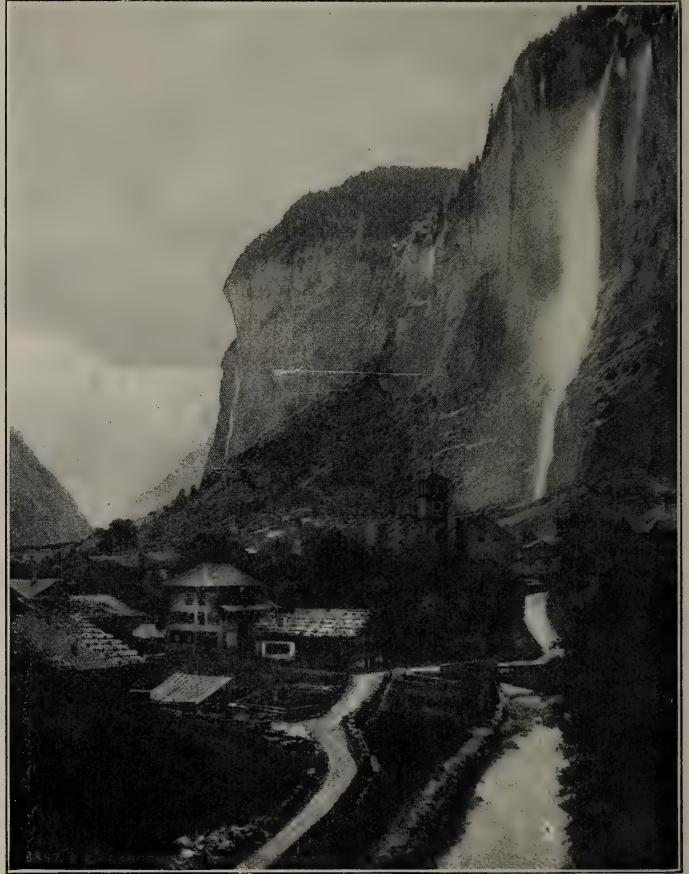
deep green waters of the lake, doubles the capes, turns the promontories, skirts the graceful curve of bays and glides into apparently endless creeks, we obtain a clear view of a succession of villas, well kept gardens and dense woods above, which greatly enhance the beauty of the scene. To the left the snow-fields of Blumlisalp meet the tourist's gaze, while in the direction of Interlaken appear successively the peaks of the Jungfrau, Monch and Eiger.

Interlaken, in summer, is a "terrestrial paradise." Everything is gathered here to charm the senses and delight the eye. It is not a town, nor is it a village. It is an agglomeration of palatial hotels; of luxurious shops on the finest promenade one can imagine. The outlook from the hotels is ideal. Directly in front we see broad lawns of emerald green, with flower beds and venerable walnut trees; and, forming a charming background, the peaks

of the Heimweh Fluh, The Rugen and the Abendberg appear clad from foot to cap with shadowy woods; while in the distance, the Jungfrau raises its ice-clad summit among the clouds of mist.

The Jungfrau is to Interlaken what Mont-Blanc is to Chamonix. It is decidedly the attraction that brings so

many travellers to Interlaken, and hold them there spell-bound. It is a wonderful mountain, particularly fascinating when seen toward the close of the day as the setting sun caresses with golden rays its icy summit; and still more fascinating by the contrast arising from the appearance and sudden vanishing



CASCADES OF STAUBBACH.

of the phenomenon of the "Alpengluten." There are evenings when the spectacle is so marvellous, so grand, so far above all material things, that even the inhabitants of Interlaken, far from being tired of the sight, rush and crowd to see the Jungfrau illuminated.

From Interlaken the Bernese Ober-

land Railway carried us to Lauterbrunnen, celebrated for the cascades of Staubbach. An electric railway ascends from Lauterbrunnen to Murren, a lofty site facing one of the grandest panoramas in Switzerland. A cogwheel railway runs from Lauterbrunnen to Grindelwald, a place celebrated for its winter sports. On this part of the tour we may rest for a time on the Kleine Scheidegg, a ridge of pasture framed by an admiring amphitheatre of icy peaks in the midst of which the Jungfrau is throned, flanked by the Monch and Eiger.

Such is the series of walks, excur-

sions and easy ascents which Interlaken offers. We may start in the morning from the green and flowery plain, in the freshness of the early day; we may travel by rail from the plain to the hillside, from the hillside to the mountain, from walnuts and planes to beeches, firs, and verdant pastures. And then, as evening approaches, we may climb up the Alps and dine at a good hotel facing the glaciers, and there, in the quiet contentment of a satisfied hunger, forget, for one delightful moment, the worries and cares of life, left away below in the tiring hustle of the busy world.

THE OPAL MONTH.

Now cometh October—a nut-brown maid,
Who in robes of crimson and gold arrayed,
Hath taken the King's highway!
On the world she smiles—but to me it seems
Her eyes are misty with mid-summer dreams,
Or memories of the May.

Opals agleam in the dusk of her hair,
Flash their hearts of fire and colors rare,
As she dances gaily by;
Yet she sighs for each empty swinging nest,
And she tenderly holds against her breast,
A belated butterfly.

The small crickets sing no more to the stars;
And spiders no more put up silver bars,
To entangle silken wings;
But the quail pipes low in the rusted corn,
And here and there—both at night and at morn—
A lonely robin still sings.

A spice-laden breeze of the south is blent
With perfumed winds from the far Orient,
And they weave o'er her a spell,
For nun-like she moves, so still and so sweet;
And while mists, like incense, curl at her feet,
She lingers her beads to tell.

—Virna Sheard.

A Short Letter from W. C. Good to Our New Students.



SOME time ago you asked me to write for the Review an article on Agricultural Economics. I beg the indulgence of yourself and your readers in not at this time complying with your request. At present I prefer to address myself mainly, in a somewhat familiar talk, to the young men and young women who are now entering college for the first time. To such, then, I would speak, concerning what an **education** may mean to them; and, if my words find congenial soil in the minds of others as well, I shall be doubly rewarded.

Last June I listened to President Creelman addressing a number of excursionists. On that occasion he took pains to emphasize the "practical" nature of the education furnished by the O. A. C., and to point out the direct financial benefit which came to the Ontario farmer through the experimental work of the college. On such an occasion, and with such an audience, it was fitting that this side of the college work should be emphasized; and I would not detract one whit from what was then said. There is, however, another side of education which is not nowadays usually sufficiently emphasized, and it is peculiarly fitting that young men and young women, entering college with a view to prepare themselves better for life, should have this aspect brought forcibly to their attention.

In one of his essays John Ruskin states that, as he was officially connected with some schools, he often got letters from parents inquiring about the education of their children; that in these letters there was evident the prevailing thought of something "befitting such and such a **station in life**," an education leading to "advancement in life"—financial, social, political or other. The possibility of securing an education either good or bad in itself, the thought that an education might be intrinsically either advancement in Life, or advancement in Death—this did not seem to occur to the parental inquirers. What was conspicuous in England then is also sufficiently noticeable in Canada at the present time, and is my plea for taking some pains to elaborate the meaning of education.

T. H. Huxley once described a true education to consist in an acquaintance with the world of nature and the world of man (if, for convenience, man be distinguished from nature, of which he is a part), and a development of the individual feelings and will to act in harmony with knowledge so acquired—an infinitely suggestive statement, worth the reader's closest attention.

Now the main object of an agricultural college is, I presume, to collect and disseminate accurate information concerning the "world of nature." For that purpose trained investigators make research into unexplored fields, gather information from other workers, and

impart all to the students and public whom they serve. So young men and young women study Biology, Geology and all the other "ologies" in order that they may become acquainted with nature and her laws, in the full assurance that such acquaintance is a necessary condition for that harmonious co-operation with nature which good farming and good house-keeping involve. This, then, is the primary object of the training given at an agricultural college; and, if the "world of man" and the development of the feelings and the will are secondary interests, it may perhaps be excused upon the ground of "no time!" Nevertheless, life is a unified whole, and no element nor side thereof is neglected except at the expense of other elements and sides. On the economic side I have previously discussed this idea in the Review, and I shall not enlarge upon it here further than to re-state that a narrow view of the "practical" is alike destructive of that very practical side of life which it is desired to conserve, and also inflicts upon society the irreparable loss of that higher life which alone distinguishes man from the lower animals.

Recurring then for a moment to Mr. Huxley's definition, it may be seen that, corresponding to the imparting of knowledge and the development of the feelings and the will, all sources of influence, be they books, people or institutions, may be conveniently classed as (1) Informational, and (2) Inspirational. Information is fundamentally necessary; but Inspiration is of higher and vaster importance. This I say with the utmost confidence that history will bear me out. Only let the reader ask: Who are they whose influence upon posterity has been most abiding and most salutary? And let him study to answer.

Read, too, the following extract which I take from the Sun of July 25th. An exchange is quoted as saying:

"He was a hired man for ten years; then he commenced farming for himself. Every year he laid aside a small sum of money, \$25, for good books and papers. He saw the value of such feeding of the mind, and what effect it had upon other first-class men. These things gave him constantly, as he once said, 'a high standard to work to'; there was the secret. He would not turn off a poor animal, or poor butter, or anything that was not first-class. He was vigilant all the time in everything he did to secure high quality."

Upon which the editor makes the following comment:

"Unless he leaves behind him some lasting sense of his integrity, a man is of questionable value to his community. As Napoleon said in war, the moral is to the physical as five is to one; so in agriculture, the honorable, progressive man is ahead of the big self-advertised and scheming individual in a similar ratio. The Canada of to-day demands men—men that can be measured beside big standards of honor and integrity."

This is a commonplace sample of Information and Inspiration, but none the less important and significant because of its being commonplace. I cite it because it comes home to us in our workaday life, an impressive case of the power of ideals.

Now, it is generally conceded that acquaintance with and obedience to natural law is necessary for success in a material way. Similarly, acquaintance with and obedience to moral law is necessary for that kind of success which history and individual experience have shown to be of greatest value and permanence. There is one moral law

that meets us everywhere in life, were we quick to recognize and obey. It is the law of Vicarious Sacrifice, in some of its aspects apparently strangely at variance with the "world of nature" and the "natural" man. He who was its greatest exemplar thus expressed this law: "Except a grain of wheat fall into the earth and die, it abideth by itself alone. . . . For he that loveth his life loseth it; and he that hateth his life in this world shall keep it unto life eternal." Men said of General Gordon that he threw away his life in the city of Khartum. He laid down his life, but he laid it down with the certain assurance that even in the Sudan he will find it again. As the farmer sows wheat in the ground, so he buried himself as a seed, and in Northern Africa, as a consequence thereof, we shall some day see, if we do not now, the abundant harvest of noble lives.

There is nothing more mysterious or unreal about this law than about those in obedience to which the husbandman yearly garners in the world's food, and it is one which every young man and woman needs to know and to obey.

Moreover, let it not be thought that obedience involves going to the ends of the earth or doing anything unusual. Manifold are the opportunities and certain are the consequences, in college and out of college, in your daily life and in mine, for the application of this great law of the moral life.

Closely connected with the foregoing is the law of co-operation and mutual service. The ideal of service, though essential to society's existence, is one which society has been slow to recognize in its ordinary affairs, although it is recognized in all emergencies. Just now we need to see and feel the demand for its application to our commercial

and industrial life. It is a curiously significant fact that while the soldier is sacredly bound to suffer anything rather than not to defend his country, the doctor anything rather than to be false to his duty of relieving sickness, the pastor anything rather than to teach falsehood, merchants and "business" men, on the other hand, are ordinarily supposed to do anything rather than to miss an opportunity of "buying in the cheapest market and selling in the dearest," and of "doing up" their neighbors by all legal means, instead of doing as they would be done by. The industrialist has a sacred duty to perform, viz., to provide means of subsistence for his country, and it is an ominous sign that as yet the mercenary spirit is the one which permeates our industrial and commercial life. The mercenary spirit has one main axiom: "With money you can get anything"—a statement as false as it is degrading. Why, even the "little pile" of the manipulator is largely due to the unselfishness of the simple-hearted, and all life would cease were it not for the existence of beautiful acts of service and much hard work done without even an expectation of reward. In the words of Charles Wagner: "The most precious things that man possesses he has almost always received gratuitously; let him so learn to give them." At the present stage nothing is more terrible than that you young men and women, capable of all great and noble endeavor, should erect in your minds the golden idol of financial success, and, to get money, deny yourselves friendship, the appreciation of the beautiful, even an approving conscience, and have your sense of justice and right converted into gold, thereby starving the only part of your nature which elevates you above the beasts

that you despise. Read the following from President Schurman, of Cornell:

"The vice of the age is that men want wealth without undergoing that toil by which alone wealth is created. Among the rich and well-to-do business and professional classes 'grafting' has been so common that the very idea of commercialism has become a bye-word and a reproach. Financiers, capitalists, corporations may be the most conspicuous sinners, but equally guilty is the merchant who cheats his customers, or the lawyer who shows his client how to circumvent the laws, or the scholar who glorifies his patron's success in business, irrespective of the methods by which that success was achieved, or the preacher who transfigures the truthless oppressor and robber of six days into the exemplary Christian of the Seventh."

Now, as ever, the world asks of you what kind of contribution you are going to make to its progress. Canada demands high integrity of purpose in her sons and daughters, that the stain of her sordid public life may be removed and that Right, which alone "exalteth a nation," may prevail among us. True patriotism leads one to eradicate the evils which flourish at home rather than to institute self-glorifying comparisons between ourselves and our neighbors. First "cast out the beam which is in thine own eye and then thou shalt see clearly to cast out the mote that is in thy brother's."

I have said so much by way of emphasizing one or two aspects of that side of education which is concerned with the world of man and the development of one's powers to act in harmony with Universal Law. An education is something more than the getting of information, or culture, or the ability to

make money or to fill acceptably any social position. It is all these and more. It is to come into contact with the inspiring history and leaders of the past, to learn to co-operate in the universal progress, to imbibe that spirit which shall make you stand firm in the face of temptation and misfortune. These are some elements of an education which I wish you would begin to obtain now by choice, rather than later by the compulsion of bitter experience. If you do not now recognize such elements and provide for their development during your days of opportunity you may leave the college halls narrowed in sympathies and degraded in purpose, rather than widened and elevated, and the knowledge you have gained may be turned to miserable account in your subsequent careers as citizens. Nothing is more important for our national and home life than that you men and women who, by virtue of your training, are destined to fill prominent positions, should be animated by high purpose and actuated to all noble endeavor. To you college men and women we must look for the salt which shall preserve society from decay, and I have faith that of you the following, which President Hadley (of Yale) says of America, is also true:

"I believe that whenever it comes to a great crisis—political, industrial or moral—there is enough of the Spirit of Christ in America to save us. But, though we have good ground for hope, we are very far short of having ground for complacent assurance. That part of our people which turns with avidity to sensational accounts of robbery and arson and murder is not far removed from the multitude that cried: 'Not this man, but Barabbas!' That part which looks to platform or press for appeal to

its passions, and which seeks a leader who can give voice to the promptings of its own prejudices or emotions, has advanced little beyond the stage of those who clamored for the crucifixion. And that part of our people, which, though more respectable than the second, is nevertheless content to make prosperity in business or politics the test of success, and to give all its thoughts to the attainment of that prosperity by any means not too grossly inconsistent with respectability or enlightenment, does not differ greatly from him who washed his hands of the whole matter that was the most momentous in the world's history."

But in spite of discouragement and the apparent supremacy of venality, one finds comfort in turning to the following prophetic vision of Charles Kingsley:

Who will say the world is dying?

Who will say our prime is past?
Sparks from heaven, within us lying,

Flash, and will flash till the last.
Fools! who fancy Christ mistaken;
Man a tool to buy and sell;
Earth a failure, God-forsaken,
Ante-room of hell!

Still the race of hero-spirits

Pass the lamp from hand to hand;
Age from age the words inherits—

"Wife and child, and fatherland."

Still the youthful hunter gathers

Fiery joy from wold and wood;
He will dare as dared his fathers,
Give him cause as good.

While a slave bewails his fetters;

While an orphan pleads in vain;

While an infant lisps his letters,

Heir of all the ages' gain;

While a lip grows ripe for kissing;

While a moan from man is wrung;
Know, by every want and blessing,
That the world is young.

W. C. Good.

Brantford, August, 1906.



The Farm Will Not Sell for What the Buildings Cost.

BY. L. H. BAILEY.



THIS is one of the commonest remarks, as indicative of an assumed low ebb of the agricultural condition, that farms will not sell for the cost of the buildings. This measure of agricultural decline seems to be unanswerable and final.

If one were to examine the statement carefully, he would endeavor to determine whether it is true in any significant proportion of cases; but I propose for the moment to accept it at its face value and to ask, "What of it?"

Not long ago I saw men tearing down a great building in New York City. It was a stone building, handsome, sound, and apparently well constructed. I asked why it was being demolished. I was told that a taller and better building was to go up in its place—a "modern building," the boss said. I contended that the old building was good enough to stand for a hundred years. "The longer it stands the more they lose on it," the man replied. "It was good enough for the folks that built it, but it has served its time."

Some dozen years ago a dairy building was erected at Cornell University at a cost for construction and equipment of \$50,000. It was a fine building, and we were proud of it. We thought that the dairy and stock interests at last had a permanent home. We are now moving into a new dairy building, costing twice

as much, and the animal husbandry will occupy a building of its own. Our friends are congratulating us on having permanent quarters at last. Yet I suspect that another dozen years will find us sorely in need of much additional room and equipment; if we are not then in need of it, we will not have grown, which means that we will not have lived up to our opportunities.

Just before I was born, my father built a good frame barn—the first timbered barn, I think, built in that region. It is 30x40, with a "barn floor" in the centre, a mow on one side, two or three stalls and a granary on the other, and storage place above the "great beams." (There are also swallows' nests plastered against the rafters, so tight under the roof that I could never look into them.) It is a good barn yet, and I think it would stand fifty and perhaps even a hundred years. There is also a horse barn on the place of similar size. I remember when it was built. It was a world's wonder to me how any man could know so much as to frame those great timbers so unerringly that they would fall into place at the time of "the raising." This barn, too, is still sound. I am sure that it is good for fifty years.

Now, it would not surprise me at all if some modern farmer would declare that he would rather buy the farm with the buildings off than with them on,

notwithstanding the fact that they are sound. He might even suggest that buildings are not valuable merely in proportion as they are sound or in proportion to their cost, but in proportion to their usefulness at the present time.

Very many of the old farm buildings have long since outlived their usefulness. They should have paid for themselves long before this. Farming should not run on continuously in the same groove, even on the same farm. Every new generation should begin a new agricultural business on the old land; and in every generation the farm should pay for itself all over again, buildings and all.

But sometimes the land and buildings and "improvements" all together will not sell for the cost of the buildings alone. That is, the farm has a less money value than formerly. This may only mean that this particular farm business is not adapted to the present day. Perhaps it is no longer adapted to be a grain and hay farm, so well as to be a stock or dairy farm, and all the old "improvements" may need to be modified radically. Perhaps it may now be necessary, for best economic results, to combine two or three farms into one, and when the combination is effected each original member may be worth much more than it was before. Because a farm has been of a certain character

and size in one generation, is no reason why it should retain those characteristics, or even be kept as a separate farm, in the next generation. Because farms are abandoned is no reason to think that land is abandoned. Some farms ought to be abandoned. There are abandoned stores in every large town; but the buildings may be useful for other business. The fact that a farm will not sell for the cost of the buildings may mean that the farm business on that area or in the community may need complete reorganization.

It is sad when farms will not bring the price of buildings, because we sympathize with the persons and regret the personal changes that follow; but when considered as a living economic and business question, divested of its personalities, it may or may not be cause for discouragement and regret. In other words, the price of farms, as of other property, is subject to fluctuation with changing conditions and ideals; but because land and buildings remain where they are and in sight, we do not think of them as subject to these laws. It is never safe to regard the cost of buildings as a criterion of the value of a farm for more than twenty-five or thirty years after they are built. Of what effectiveness is the average dairy barn of thirty years ago for a first-class dairy business of the present day?



The Bean Industry of Ontario.

BY G. G. WHITE.



DURING the past summer, it was the privilege of the writer to spend a few months in the bean section of Ontario, and to make a special investigation into that industry. The purpose of the following article is to give a general outline of the industry, and to show the place which beans hold among the farm crops of the Province.

Bean-growing for commercial purposes is practically all confined to the counties of Kent, Elgin, Middlesex, Lambton and Essex, named in order of importance. Of this district, a small portion of Kent and West Elgin produces about nine-tenths of the entire crop. The principal bean sections lie near the shore of Lake Erie and south of the Thames River, in the townships of Harwich, Howard, Orford and Aldborough. Some few miles back from the lake is a gravelly and sandy ridge which has for many years been one of the largest bean-producing sections. The land, however, is somewhat light, and, owing to continued cropping, the yield has decreased considerably of late. Around Rond Eau, for about two miles back from the lake front, lies the finest bean section of Canada. The soil is a rich loam, well drained, and the climate, owing to the proximity of the water which protects the crop from spring and fall frosts as well as lessening the danger of drouth, is particularly

suited to beans. While most of the beans are still produced in this district and on the "ridge," the territory is extending year by year, and many parts, which, a few years ago were thought unfit for bean-growing, are now giving very favorable results. On an average, about 45,000 acres is devoted to bean-growing each year. The acreage varies very greatly, however, depending upon the success or failure of other crops, and also upon existing prices. The yield varies even more than the acreage. It is common to hear of yields varying from five to forty bushels to the acre in different seasons, on the same land, under similar treatment. No other crop is more at the mercy of the weather, and often a few days' drouth or excessive rain will make a difference of several bushels in the yield. Under average conditions, about twenty-five bushels per acre is considered a fair yield, although it is not uncommon to see forty. The total crop amounts to from seven hundred thousand to eight hundred thousand bushels each year.

The principal market for the crop is in the mining and lumber camps of Ontario, Quebec and the Maritime Provinces. The trade with the lumber camps is, of course, not so large as formerly, but this decrease has been more than counteracted by an increased consumption in our towns and cities, and a growing trade in the West. There is usually a home market for about six

hundred thousand bushels. The United States was at one time our only foreign market, and on them we depended to take practically all our surplus. Some years ago a duty of forty-five cents a bushel was put on Canadian beans going into the States, which placed that market almost beyond our reach. At present, France is our largest foreign market; in the fiscal year 1905, we shipped to France alone, eighty-five thousand bushels. Great Britain and the West Indies also take a large quantity of Canadian beans. Each market demands a particular variety, and in most cases, it is practically impossible to substitute any other variety. The pea bean, a small white bean, is the only kind in demand in France, all parts of Canada except a small portion of the Maritime Provinces, and in most parts of the United States. The British market is calling for a somewhat larger bean, while the West Indies take a large quantity of colored beans, such as the Red Kidneys, as well as Marrowfats and some Pea beans. The price for Pea bean averages from \$1.10 to \$1.20 a bushel. The special varieties range from \$1.00 to \$5.00 a bushel, depending upon the supply available.

To those who are not familiar with the crop, beans are thought to involve a great amount of labor, but where from fifty to seventy-five acres are grown each year, as is the case on many farms, the crop is handled as easily as any other grain crop. Few hundred-acre farms in the regular bean district have less than twenty-five acres of beans each year. This land, being in a fine state of tilth, and free from weeds, is usually sown to winter wheat as soon as the beans are harvested. While beans involve considerable labor in cul-

tivating them during the summer, the farmer considers the work done toward preparing the land for wheat is sufficient to repay him for this extra labor. The land, preferably a well-drained loam, is thoroughly cultivated in the spring to form a firm, yet mellow, seed bed, and to rid the land of as many weeds as possible before the crop is sown. From the 24th of May to the 10th of June, the seed is sown, either with an ordinary grain drill or a regular bean planter. The general practice is to sow in drills, about twenty-seven inches apart, using about three pecks of seed per acre.

The crop is harrowed before and after it comes up to break the crust and to destroy any small weeds that may have started. As soon as possible, the two-row horse cultivators are started, and they are used as often as possible before the crop comes in blossom, at which time it is well to stop all cultivation. The main feature in successful bean-growing is clean cultivation. On the best-managed farms the hand hoe is seldom or never used, but the land is well prepared before seeding time, and the cultivation done at the proper time. The appearance of many thirty or forty acre bean fields about the middle of July, the plants completely covering the ground, and not a weed to be seen, presents an object lesson well worthy of remembering. Where the crop had been properly handled for some years the effect of bean-growing could be noticed over the whole farm. The pastures, meadows and grain fields were always free from weeds, which could not in every case be said of adjoining farms, where beans were not grown. The crop is generally ready for harvesting from eighty to one hundred days after planting. The old method of hand

pulling and bunching is no longer practiced. The two-horse bean puller, a machine having two large knives, which cut off the plants just below the surface of the ground and draw two rows into one, is used almost exclusively. After the beans are pulled, eight rows are thrown into one windrow by means of a side delivery rake. There they are left to dry for about a week, until they are ready for hauling in. During this time, however, they must be kept turned to prevent their settling to the ground. While beans are drying is the most critical time in the handling of the crop. If they become wet and are allowed to settle to the earth, so as to exclude the air, the grain is sure to become darkened and rendered unfit for market. The side delivery rake is used also for turning the beans and will do the work of many men, thus reducing to a minimum the danger of loss from wet weather. The puller will handle from ten to fifteen acres of beans a day, and one rake will keep up with two pullers, so that horse labor is very effectively employed. Some are using the hay loader, but this machine is rather wasteful, and has not given good satisfaction. Threshing is done with a special bean mill which removes most of the clay and other dirt, and leaves the beans fit for market.

Beans are bought in this condition, in which they come from the mill. A small sample is taken and hand-picked,

and for every pound of dirt and spoiled or darkened beans in the bushel, five cents is deducted from the market price. In the elevators, the beans are usually cleaned by machines and sold as prime beans. Those for the Maritime Provinces and European trade are all hand-picked. In both buying and selling, the beans are sampled and bought and sold on the basis of the hand-picked sample.

It is claimed by many prominent farmers in the bean district that the bean crop of Kent County is of more value than the wheat, oat and barley crops all put together. To the bean crop may largely be attributed the wealth and prosperity so apparent in that district. The soil and climate are so well adapted, the crop is so free from insects and diseases, and the farmers have so well learned the art of handling it, that a paying return is almost a certainty. The straw is very much relished by stock, and the grain, if low in price or damaged by unfavorable weather or otherwise, has a high feeding value. All things considered, the bean crop is as paying a crop as can be grown, providing the conditions are suitable. While the acreage of the crop may be decreasing to the west, it is increasing to the east. It is spreading over a larger territory each year, and there is every reason to believe that the industry will remain as it is for some years, or tend slightly to increase.



Agriculture.

THE PHILOSOPHY OF THE SHOW RING.

"Felix qui potuit rerum cognoscere causas."

IN the circus, in the arena, in the forum of the ancient world gathered the spirit and the strength and the prowess of the ancient people to strive for the mastery in the race, combat or debate. The spirit of emulation born and bred in mankind, found liberty in the activity of the contest and inspiration in the hope of success. It has always been so, even as men from the earliest times have engaged in the great game of war. Other times have come upon us, and other labors, but competitive endeavor is no less manifest in the commerce and industry and thought of to-day than in the lives of the Greeks and Romans. The genius and spirit of any great enterprise must almost of necessity, sooner or later, find expression in some public way. The monster processions of a labor day but give voice to the sentiment and identity of the great labor unions. The deliberations of a manufacturers' convention are as the distilled essence of a pregnant desire for the speaking forth of common interests and the fashioning of common laws. The voice of the great agricultural community finds a way of utterance occasionally, and in a way peculiarly its own. The agricultural fair is in part the stockmen's convention.

The "Durham Ox" and the "White Heifer that travelled," are names that recall the pioneer days of the stock-

man's art. To the student of the market and the feed-lot these cattle presented a new type and a new ideal. The inspiration and education of the early breeders was gained largely at the ring-side and on the market, where the cattle were gathered, not to meet each other in competition, but where they were brought simply for the purpose of sale. To follow the fortunes of these early breeders is outside the scope of this article, but we cannot but remark on the courage and fortitude and intuitive foresight which they thrust into their work. As soon as breeding began in earnest the showing played a prominent part in preserving the interest in the business, and in shaping the standard of quality and form. The hard-fought struggles of Bates and Booth, and the wonderful success of William McCombie with his black cattle in Great Britain and France, are prophetic of the contests of later years, and illustrate the shrewdness of the early breeders.

From then to now is a far cry, but from small beginnings great issues grow. Through all the years of the last century, the show ring has grown in importance and increased in usefulness in preserving the traditions of the earlier times, and in evidencing in tangible shape the demand of the market. To the student, to the breeder, to the farmer of to-day, the greater agri-

cultural fairs possess a magnetic interest and create an enthusiasm worthy of the effort which inspires it. A lifetime of toil and hope is sometimes the price of the red ribbon which the colt or calf proudly bears away on his halter, and the records of a "Baron's Pride" or a "Champion of England" awaken the admiration of those whom fortune has favored with a knowledge of the past.

life. The show-ring, then, has behind it a history, and encourages an ambition that lifts it into a plane and gives it a prestige on a parallel with other conventions of human endeavor.

In one regard it would seem that the modern show-ring fails of its purpose. The original idea of the show-ring was to encourage the individual breeder, and the pride of the showman was in



"CHAMPION."

The fashioners of animal form have chosen for themselves not an easy vocation, and the Cruickshanks and the McCombies are as worthy of attention as some who have gained distinction in the "romance of steel and iron." To have provided sustenance for mankind merits their gratitude, yes, and deserves their honor even as those to whom they owe the luxuries and other necessities of

the stock which he himself had bred. Is it not a reflection upon the Canadian stockman himself that he continually resorts to importations simply to win him the position he desires? The enterprise must be commended, but is not the effort, in a degree, misplaced? When Canadian stock can win at Canadian shows, then the Canadian breeder will have to come to his own. And yet not

quite. In this commercial age credit is often misplaced, and the owner, not the breeder, receives the mede of praise. Wealth has a purchasing power which continues to be tempting, and some of the stately champions found leading the larger herds in the parade owe nothing but the feed and care of a month or a year to the man whose present possession they are. The country owes its greatest debt to the breeder whose life is behind his work, and whose young herd continues to appear in competition as the product of his year's labor.

The honor of the show-ring has sometimes been challenged. There has been at times truth in the accusation, but the implication must include not judges and directors only, but exhibitors as well. A well-known stockman once said that a breeder's reputation can only be main-

tained through a habit of strictest integrity. A show-ring can only serve its purpose and continue in repute as it is guided in its management by the principles and practice of private and public honor. There have been good men to the fore in show-ring circles, and there have been bad ones; therefore, without insinuation or impeachment may we make the plea that the time-honored British spirit of fair play may retain the precedence in the counsels of the show-ring, and that aught of fraud or injustice may be frowned upon with the censure and contumely it deserves. Respecting thus the traditions of the past, it may continue to prove an important factor in the commerce of the country and live to fulfil the purpose of its historic beginning.

H. S. Arkell, M.A.

THE HOAR-FROST ON THE WOOD.

Look through the glistening stubblefields to where
 Last night in solemn and complaining mood
 Over the fate that left them grim and bare,
 The trees in yonder dear old forest stood.
 "The Spring," they moaned; "Ah, it will be a while
 Ere she can touch us with her magic wand."
 Who was it heard?—to-day, mile upon mile,
 There stretches out a white, enchanted land;
 Each tall tree hath a weight of gems that shine—
 Mark how the sun can draw its beauties out—
 On every soft white thing its kisses fall;
 Till in the air we see a dazzling line
 Of sparkling gems. It is a glorious rout
 Of Nature's Children holding carnival!

—Jean Blewett.

Horticulture.

THE STUDY OF ROOT CROPS AT THE CORNELL EXPERIMENT STATION.



WERE one to examine the volumes of American agricultural papers published from thirty to thirty-five years ago, he would be struck by the fact that much was being written in regard to the growing of roots for stock food. Readers were told that root culture was the sheet anchor of British agriculture; that the introduction of the root crop into the rotation meant better yields of all the crops grown; that the roots furnished succulent food for winter feeding, which resulted in more perfect digestion of the dry foods and consequently more profit from the feeding operations. Frequently aphorisms like the following are met with: "More roots more stock, more stock more manure, more manure more crops, more crops more cash."

This movement made considerable progress in New York, and even more in Canada, where root crops now occupy a place of considerable importance in the system of farm management.

A little later the introduction of the silo began, and this subject received even more vigorous and extended discussion than did root crops. The New York dairyman expends most of his energies in the production of roughage for his animals and depends chiefly upon the grain fields of the West for concentrates. During the period that the silo was being most vigorously urged upon the farmers' attention these concentrates, in the form of cornmeal and the by-products of the manufactures from the various cereals, could usually be purchased at a price much lower than they could be produced by the Eastern farmer. His problem, therefore, was how to produce the roughage at the least expenditure of land and labor, and to purchase the concentrates with the least expenditure of money. At this period the root crops were thought of as constituting a part of the roughage portion of the ration. Their succulence, to be sure, had the advantage of adding to its palatability, and perhaps slightly increasing the digestibility of the other roughage, but they were not supposed to properly take the place of concentrates. When, then, the merits of silage were discussed during the following decades, it was admitted to be in direct competition with the root crops for the farmers' favor. The silage is succulent, and is palatable, and was believed to have much the same value as the root crops on this account. When it came to putting roots and silage in the same class as to value, the New York farmer did not take long in deciding which he would grow. The root crops never were popular with him because of the amount of hand labor necessarily involved in their cultivation. The corn crop for silage appealed to him strongly because nearly all the work

could be done by machinery. Therefore, the production of silage increased, and root crops nearly disappeared from New York farms.

More recent studies seem to indicate that roots may more properly be classed with the concentrates. It is now found that the dry matter of concentrates is digested much more completely than that of roughage, while the latter requires the expenditure of much more energy in its mastication and digestion, so that the **net available energy** resulting from the consumption of the concentrates is much greater. In one case, for instance, Kuntz, of Germany, found that oats had three times the value of clover hay for the production of work in horses. Roots are both very completely and very easily digested, so that the net available energy secured from their consumption is large. In this respect they are like the concentrates.

Rather extensive Danish experiments indicate that a pound of dry matter in roots is about equal to a pound of the cereal grains, or to three-quarters of a pound of cotton seed meal, when fed to milch cows. In these trials no silage was fed, the basal ration in each case consisting of six and a half pounds of hay and ten pounds of straw per cow. The experiment was so conducted as to eliminate apparently the factor of succulence, as shown by the following table:

VALUE OF MANGLES FOR MILK.

Average of six experiments, including about 150 cows during several months. Basal ration six and a half pounds hay, and ten pounds straw:

	Cereal Grain.	Cottonseed Meal.	Dry Matter in Roots.	Nutritive Ratio.	Daily Yield of Milk
Lot A.....	7	1.5	4.5	8-9	22.4
Lot B.....	4	4.5	4.5	5-5.5	23.7
Lot C.....	4	1.5	7.5	8-9	22.5
Lot D.....	1	4.5	7.5	5-5.5	24.2

It will be noticed that all the cows were fed roots, but two lots were fed roots containing seven and a half pounds of dry matter, equal to about 65 pounds of fresh roots, instead of four and a half pounds of dry matter equal to 40 pounds of fresh roots. The additional three pounds of dry matter in roots in the first-mentioned cases gave as good results as an equal amount of cereal grains, the cereals consisting either of Indian corn or of a mixture of barley, oats and rye. From the standpoint of the results which they produce the roots may be looked upon as watered concentrates.

The high water content of roots is a hindrance to their extensive use. On account of this, it will not be practicable to feed a sufficient amount to entirely take the place of the cereals, even should it be desirable to do so for other reasons. The evidence is, however, that they may be substituted for a part of the cereals to advantage, and the feeding value of the different types and varieties depends more largely upon the per cent. of dry matter they contain than upon the composition of the dry matter.

So long as the present high prices of the cereal feeds are maintained the farmer must seek for home-produced substitutes. The problem in New York is whether he can afford to grow roots, and, if so, what kind.

To help to solve this question and also to gain information as to the best methods to pursue in root culture the Cornell Experiment Station has grown during the seasons 1904, 1905 and 1906 ten types of root crops, including over forty varieties and occupying each season more than 150 one-hundredth-acre plots. The results for 1906 are not yet available, but part of the data relating to the crops of 1904 and 1905 are taken from the unpublished records in the Station office. In each case the figures presented are the average of the two seasons. The maximum yields are those of the best variety of a given type receiving the most successful treatment. The average yields are those of all varieties tested and all treatments given them.

The following are the yields per acre in tons:

	Fresh Roots.	Dry Matter.
Mangles, average	23.75	2.76
Mangles, maximum	45.30	5.34
Half Sugar Mangles, average	34.00	3.65
Half Sugar Mangles, maximum	41.30	5.10
Sugar Beets, average	26.90	4.06
Sugar Beets, maximum	22.00	4.50
Rutabogas, average	21.50	1.96
Rutabogas, maximum	26.30	2.60
Hybrid Turnip, average	23.50	2.03
Hybrid Turnip, maximum	31.20	2.85
Common Turnip, average	13.30	1.20
Common Turnip, maximum	23.50	1.98
Kohl Rabi, average	22.30	2.23
Kohl Rabi, maximum	21.80	2.50
Cabbage, average	32.00	2.14
Cabbage, maximum	51.20	3.90
Carrots, average	15.00	1.75
Carrots, maximum	25.70	2.66
Parsnip, average	8.00	1.60

The estimated yield of grain from flint corn the same seasons on the college farm was about one ton, while the estimated dry matter in silage from dent corn was about two tons. The season of 1904 was probably more favorable to the root crops than to corn, but the same could scarcely be said of 1905.

If the present high prices of grain should lead Eastern farmers to endeavor to grow their own concentrates, and if the evidence is accepted that a pound of dry matter in roots is equal in feeding value to a pound of cereal grain when substituted for a part of the latter in the usual ration, it seems that this systematic study of the possibilities of roots is, to say the least, timely. When this study shall have indicated the types and varieties of roots showing greatest possibilities for the production of dry matter under New York conditions, and also the methods of culture yielding best results, it should be possible to

make selections that will enable the farmers to substitute home productions for part of the concentrates they are now purchasing.

It is not thought to be desirable to enter into the details of these experiments at this time and in this article, but when it is observed that according to the table given above many varieties of root crops produce as much, and several varieties two or three times as much, dry matter per acre as is ordinarily produced of grain by the cereal crops, the importance of the study is apparent. A serious handicap to the raising of root crops is the fact that with present cultural methods a large amount of hand labor is required. The point of view that it is desired here to emphasize is that while roots may not be economically raised as a substitute for silage or other course fodder, it may be economical to raise them in New York and other Eastern States as a partial substitute for concentrates, particularly the cereal grains.

THE TRAIL OF GOLD.

Under the ward of the Polar Star,
Where the great auroras snap and blaze,
There are cracking blows on the icy bar,
That is set at the end of the open ways.
There are axes ringing across the crest,
The sluices shackle the streams that rolled,
As the gamesters gather from east and west,
The men that follow the Trail of Gold.

A black line crawls o'er the glacier's face,
Where the worn pack-horses scrape and slide;
The muskeg swallows and leaves no trace,
The boats go down in the snow-swelled tide.
Blood and bones on the snow and sod,
From the canons black to the barrens gray,
Blaze the trail that the vanguard trod,
That those who follow may find the way.

There are strange ships west of the lonely isles,
Where the red volcanoes burn and freeze;
There's a fading wake o'er the misty miles,
There are smokes that trouble the smoky seas.
There are corpses swept from the sinking hull,
As the steamer dips to the swelling gale,
For the rising shark and the wheeling gull
That hunt the sea on the Golden Trail.

The storm sweeps out from its Polar den,
Till the air grows dense with the cutting snow;
The north makes mock of the sons of men,
As the diggers lie in the drifts below.
The workers lie where the last work ceased;
The strong men scatter the lifeless wold;
And the tall wolves howl at the gathered feast,
The hounds that hunt on the Scent of Gold.

— Frank L. Pollock.

The O. A. C. Review

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Editorial.

With the publication of the new calendar came a new standard for admission to the Third Year. Instead of "Matriculation or its equivalent," sixty

per cent. marks in English and fifty per cent. marks in general proficiency are required to allow students to complete their course for the B. S. A. Degree. As a considerable amount of discussion has been raised as to the wisdom of the new regulations, it may be well to state "the pros and cons" of the whole question.

The matriculation standing was made the requirement some four years ago in the hope, doubtless, that it would increase the scholastic attainments of our graduates, but seeing that it has been

removed from the calendar in so short a time, and a return made to the old standing, it must be thought that the matriculation standing has been found to be either unworkable or that it has militated against the best interests of the college.

It can hardly be doubted that matriculation would do much to give our graduates a higher standing, and this being the case, it is hardly proper to urge against it that it would prevent some otherwise capable men from obtaining their degrees. In the past, certain men have dropped out at the end of their first two years in order to secure the matriculation certificate, returning to complete their course subsequently. Although where possible, it is best for a man to take his college

course in four consecutive years, yet a year out of college spent in High School or in private study is in no wise wasted. The man himself gains in knowledge, and obtains a better grounding in the elements, and at the same time the men of pluck and determination are brought to the surface. Men, who early in life demonstrate their ability to overcome obstacles, these are they who, later on, "do things," and this is the stamp of graduate that we wish to produce.

The O. A. C. stands as an agricultural college. That is to say, its aim is to produce graduating classes from which a large proportion of the men will return to the farm. Though this is so, yet we cannot disguise from ourselves the fact that quite a proportion of these graduates will seek their life work in professional, journalistic and other forms of public and semi-public service. In this and in other countries positions are continually opening up which are bound to be filled by men trained in agricultural colleges. It is through men in such positions that our college has become most widely known, and as such men are leaders, we should see that all the men in our senior years have attained some measure of scholarship apart from the purely technical subjects.

On the other hand, it may be urged that the new regulations will do this. Under them it will be possible for any man of average ability who works faithfully during his first two years to "make the grade" and to obtain his degree. Thus no one will be kept out because of a standing being enforced which the college curriculum is not designed to provide, and for this reason, too, the result may be that actually a larger number of men who intend to work

their farms will be induced to get the further education which the four-year course affords.

But whatever standing is operative, that one should be rigidly adhered to. In the past, before the matriculation was required, the standing was the same as that now called for, but it was never enforced. While the "matric" was required there was a saving clause under which almost any man might pass through. The result was, of course, that in the cases of those graduating classes which came under the matriculation requirements, but a small proportion of the men were matriculants, some had passed an "equivalent" examination (which was valueless), while of some, no requirement was ever made.

In the old days there may have been a sufficient excuse for exercising the elasticity of the rule, as the various personal exceptions were presented. Now, however, the college has no longer to go begging for students, but rather our halls are overcrowded. This being so, only the best men should be allowed to graduate. If the new regulation is rigidly enforced only good men will be able to enter the senior years. If, however, exceptions are allowed to evade the rule, then it is absolutely useless, and better far to expunge it from the calendar. The enforcement of the rule not only means that men must not be admitted unless they make the required marks, but it means also that in marking the papers the Faculty must be exact. We can quite understand that on occasion a professor feels that he would like to pass a man who has not done so well as he could have wished. If, under such circumstances, the man is passed there is a distinct loss to the efficiency of the class.

In our wish to see the O. A. C. main-

tain its lead as an agricultural college, we hope that the new rule will be strictly enforced, in order that all graduates may be men of a fair training even apart from things agricultural.

Everybody is having something to say about the proposed Spelling Reform, no matter whether they know anything about it or not. In fact, those who know least about it and whom it concerns not at all have most to say. In New York City there exists a Simplified Spelling Board, who publish a circular containing a list of words they propose to change. No person, having read this list, could afterwards spell Mr. Roosevelt's name Theidor Rosifelt. According to the rules of the Board that would be as absurd as some of the "insane" spellings we now have. Yet from every little sheet come vile criticisms on those who would reduce the labor and inconvenience of an antiquated system. To be sure, there is a class of people who anticipate trouble in the event of any change. They obstruct everything, good, bad and indifferent, after the principle of the Irishman at Donnybrook Fair—"wherever you see a head, hit it." Like Paddy Go Aisy, they say this spelling was good enough for their grandfathers, therefore, it ought to be all right for them. But even in that they are mistaken, for spelling, above all things, has been changed and revised from decade to decade, and from year to year, till even the difficulties and irrationalities of present day spelling are but shadows of past monstrosities. And so reform is going on anyway, and will continue, as an enlightened people must come to discard everything that appeals

to prejudice and conservatism rather than to reason and common sense. For is it not written that the things which in the end contribute not to the sum total of human happiness will surely die? Nor do they pass away without their long procession of mourners. There are those who would mourn the departure of the English system of weights and measures, as there were those who mourned the loss of the pounds, shillings and pence system. Introduce your dollars and cents system; introduce your metric system, it brings no consolation to the mourners; they go about the streets just the same. It was always so before now. We cannot think of a reformer, whose doctrine was unanimously applauded. Sometimes the common people heard it gladly, but for the most part, they, too, scoffed.

To speak not a word on behalf of the foreigner, it is a purely mechanical effort for the child to master the spelling of a word in which superfluous symbols abound. It is contrary to the true idea of education; from *duco*, to lead, and *e* out. There may be some training for the eye, but that is not the purpose of learning to spell. Freehand drawing is a far more effective exercise towards that end, to say nothing of the various out-door games.

In establishing a system of spelling, as in every other public institution, the fundamental idea must be the greatest good to the greatest number, including the vast majority who will never get beyond the public school. The boy or girl who is booked at a tender age for higher education would, no doubt, be aided at a later stage of study if the old roots and remnants were still retained to mark the spot of the departed, but that is advanced education, and entirely

out of the reach and use of the common people. It seems fair to assert that a simplified spelling would assist the short course pupil in acquiring his education, the education which helps him to solve the "bread and butter" problem. And if this is so, then "those who came to scoff should remain to pray," for it is futile to attempt to serve the cultural interests before the "food" problem has been solved.

One more formal introduction to the mysteries of College Life has passed into history, classed among the modern prototypes of the Battle of Lundy's Lane, in which both sides claimed the victory. In the old routine manner the sophomores have administered the rites of fraternity and demonstrated their superior prowess to their own entire satisfaction, while the ever-valiant freshmen have become even more confirmed in their opinion that this superiority was more fancied than real. The usual attempt to bring the hose into play was frustrated, and, instead, the regulation battle-royal was waged upon the campus—our magnificent campus, whose torn and littered surface bore ample evidence of the conflict the next morning, when veteran and raw recruit limped among the battered munitions of war searching for lost garments. It is a pity to mar the beauty of the campus, of course, even temporarily, but we have no special remonstrance to make on that score since the deed must be performed out of doors.

For the past few years, however, the time chosen has always been a pitch dark night, probably because the cloak of darkness more effectually conceals

the soph's lack of numbers. Right here is where we feel justified in lodging a vigorous kick. Precedent bars the senior and junior years, as well as the faculty from participating in this festival, save as onlookers. From their standpoint, anything bordering more closely upon the sensational, and yet entirely lacking in that element, could scarcely be imagined. The feeble rays from a few coal oil lamps turned upon a campus full of yelling, charging, tumbling combatants, serves but to make the confusion of figures more elusively indefinite. The effectiveness of the tactics used cannot be judged, and the stratagem employed certainly cannot be termed spectacular. Even for those who are not condemned to vainly strain their eyes in the inky blackness of the side lines, we fail to recognize joy unconfined in being tackled and welched by friend and foe alike. The victor of one or a dozen hand-to-hand encounters gains but little satisfaction and glory in return for his bruises if his conquests are unwitnessed.

Without depreciating the valor of the men of '09, we would like to rub it in in good strong English, and with plenty of printer's ink, that they missed a glorious opportunity to distinguish themselves. This year the disparity in numbers was scarcely noticeable, and had the sophomores possessed the nerve and the originality to hold their ante-mortem examination in broad daylight, this year's initiation would have been recorded as one bristling with uniqueness and interest. To the men of '10 we pass the word along to plan a more enlightened coup for next year, when their turn to refresh the freshies comes around.

Our Old Boys.

THE GRADUATING CLASS OF '06.

THE class of '06 was the largest graduating class in the history of the college. Its number comprised seventeen from Ontario, two from Quebec, two from Nova Scotia, and one respectively from Prince Edward Island, England, Scotland, Wales, United States and the Argentine, making a grand total of 27. Sixteen of these specialized in agriculture, six in biology, two in dairying, two in horticulture and one in chemistry.

From their first year onward the men were characterized by enterprise, initiative and capacity for work in all the various phases of college life. Teams selected from the class won honors for the college at home and abroad; bringing victory from the debating platforms of London University and Woodstock College, and returning from Chicago with the Bronze Bull, the coveted trophy offered by the Union Live Stock Yards Association of Chicago, for the team of best judges of cattle, sheep and swine, and for which the leading agricultural colleges of the States sent competing teams. On the field of sport the class more than held its own. Its tug-of-war team was victorious, and won the cup for three years in succession. Its football team held the college championship for two years, and its hockey team the hockey cup for one year, and was in the finals on two other years. The class was indeed composed of hustlers. The following is an alphabetical list of the members:

Bracken, J., Seeley's Bay, Ont.

If the names were to appear in the order of merit instead of alphabetically, Jack Bracken would still be first. At the close of his second year Jack obtained the Governor-General's Gold Medal for general proficiency, and at the end of his final year his class mates voted him the medal offered by the class '05 for the best developed all-round man of each succeeding graduating year. Jack was also President of the Y. M. C. A. for one year, Captain of the College Football Team, and one of the victorious stock judging team at Chicago. He is now out in the West, on the seed division, with headquarters at Winnipeg, Manitoba, where, so cupid whispers, he hopes soon to settle with "The girl he left behind him."

Baker, M. R., Penn, U. S. A.

"Merit" showed by his achievements that he deserved his name. A patient student, a hard worker, bright and vivacious, neat and exact in dress and deportment, Merritt endeared himself to all, especially the ladies. He was Vice-President of his year, and always stood well in his exams, and after specializing in horticulture, obtained the post of Assistant Dominion Fruit Inspector at Ottawa, where he will soon make himself known and respected as he was known and respected at his Alma Master.

Breckon, W. D., Waterdown, Ont.

"Bill" was a farmer's man and a farmer himself, every inch of him, and his inches were many; he was one of the

right sort, too. He was a conscientious worker right through his course, and in his final year secured first place for his Thesis. He made a practice of visiting the Macdonald Institute regularly, and, as "Good" girls always had an attraction for him, we have no hesitation in saying that his future will be a happy one.

Clark, J. A., Bay View, P. E. I.

Clark believes in farming. He has a snug and valuable farm of his own on the coast of "The Island," where he makes the earth to bring forth abundant harvests of fruit and fodder, resulting in a steady extension of his banking account. He is a happy man, living among ideal surroundings, appreciative of all that is best in life. He believes in every man having a good education, and so, leaving his farm in the charge of a trusty foreman, he spent two years at Cornell and two years at the O. A. C., at both places of which he made hosts of friends and developed himself according to his ideal.

Colwell, H. H., Oakville, Ont.

Harry had one object in view, viz., to influence others for good. He was self-sacrificing in the extreme, and would spare no pains to do another a good turn. Quiet and unpretentious, he worked most indefatigably, though usually behind the scenes, to further the interests of the Y. M. C. A., and kindred institutions. He is a volunteer for the foreign field in connection with the students' volunteer movement, and when he finds his work he will be one of the most conscientious of workers.

Craig, H. A., North Gower, Ont.

Horace was a hustler. Though Conservative in politics, he was a reformer of the most active type in connection with the student organizations at the

college. As President of the Literary Society he advocated strong measures of reform in the constitution of the society, and being successful in this matter placed the Literary Society on a firm basis for future development. Horace always stood well in his class, and since graduating has been appointed Superintendent of Farmers' Institutes in the new Province of Alberta. May success crown his efforts to bring cosmos out of chaos.

**Craig, J., From Scotland, Now of
Heward, Sask.**

Craig is an immigrant of the right sort. Five years ago, after spending two years in Edinburg University, he left the hills and dales of his native land for the boundless plains of the West. There he secured a homestead, and after complying with the demands of the Government, came East to the college for the winter. Here he took the first two years in one, and won the thesis prize of the second year. He then returned to his homestead in the West, and seeing 800 acres of land near by his own place, for sale, he purchased it, thus making himself the proud possessor of 960 acres of Saskatchewan's productive soil. After spending another season there, he came East again to complete his course at the college, and last year successfully graduated; when he once more wended his way to the West, where he intends to have a happy home, and to grow millions of bushels of wheat.

Dickson, J. R., Seaforth, Ont.

"Jimmy" was an individual with lots of individuality. Who can ever forget Jimmy? An ardent student and a great reader was he; and his intense application resulted in his being head of his class in the third year, and deservedly

so. Who, of those who enjoyed them, will ever forget the daintily-dressed chickens, fruit and cake, that came more or less periodically from Jimmy's sisters for Jimmy? Ah me, the nights that are no more! Jimmy is now a forester out in the forests of the Wild West; his intentions are to take a post-graduate course in forestry at Michigan. Everybody wishes well to Jimmy.

Duncan, R. S., Huntsville, Ont.

"Reg.," pronounced with a soft g, was one of the best-liked and most lovable of the men in the class. He was a student and a genuine sport. Unpretentious and unobtrusive, he yet had strong ideas of what was right and what was wrong, and what is more, he had the courage of his convictions. He never swerved either to the right hand or to the left, when once he perceived his line of action. He was for three years the room-mate of each successive president of the class, not one of whom but is willing to sing his praise, and to admit their indebtedness to his rectitude of bearing. Reg. is now connected with the Berlin Sugar Company. All good wishes follow him.

Evens, W. G., Wales.

Evens was a plodder, and as such will make his name. Though boarding out, he was always at his place in class, and never incurred the displeasure of the professors. He is young yet, but this means that he has a large field ahead of him. All success attend his ways.

Hart, F. H., Nova Scotia.

Frank by name and frank by nature, Frank was the beau ideal of a college chum. For two years in succession he was elected President of his class. During this time he ungrudgingly gave his utmost services for the benefit of his

fellows. His good nature was often imposed upon in this respect. In his fourth year he was stricken down with typhoid fever; but after being in the hospital for eight weeks, he showed his perseverance by returning to college, and settling down to study, graduated successfully. Frank is now a forester for the Dominion.

Klinck, C. R., Victoria Square, Ont.

Cecil was an agronomist; a great boy for experimental work with seeds. He never lost his temper once during the whole four years of his college life, and as everybody knows, experimental work is second only to the possession of a kicking cow as a test of a man's Christianity and good temper. May serenity be his lot through life and crown his days with peace and placidity as he continues his experiments with seeds on his farm in the West.

McCredie, A. L., Lyons, Ont.

"Judge" was a man of wide experience. A B.A. of Toronto University, he, on coming to the O. A. C., showed his power of mastering any subject of study which he cared to set his mind upon.

MacMillan, H. R., Aurora, Ont.

Mac was a man who always showed his power to meet and to overcome difficulties. Nothing was able to withstand Mac. Although one of the youngest men of his class, he was one of the strongest. Always in the thick of the fight, he lived the strenuous life as student, editor of the Review, debater, and all round sport. He intends taking post-graduate work at Yale. His future is a great one.

McKay, K. G., Heather Bell, Pictou, N. S.

MacK. G. never made an enemy. He had one weakness, or was it rather a

strong point—fondness for girls. He would do anything to have the pleasure of taking a girl to church, or a concert. And the good results of girl companionship are evidenced in his choice of vocation: Mac is now on his way to India as a student volunteer missionary. His labors will be in connection with the farm dairy of a large centre of missionary enterprise. Our best wishes follow him.

Munro, W. A., Chesterville, Ont.

"Billy" was a B.A. of Queen's before coming to the O. A. C. On coming here he settled down to work with avidity, and took four years' work in two. That statement implies a great deal, as all graduates know. He was a strong debater, and the champion mile runner, and was one of the victorious stock judging team at Chicago. He is now seeking his fortune in the West. Good luck attend him.

Munroe, J. F., Niagara, Ont.

"Joe" was a bully-boy. He made things hum wherever he chanced to be. Fruit-growing and fruit-eating was his bent. My word, he could eat apples! As President of the Athletic Association, he found ample scope for the expenditure of his surplus energy. A big, husky, good, practical all round man was Joe. He is now managing a large fruit-growing business in Georgia, but intends in the future to return to Ontario.

Smith, H. B., Wanstead, Ont.

Bluff, H. B., was one of the sturdiest in his class. Weighty and forcible, both physically and mentally, he could shoulder the heaviest burdens with comparative ease. Occasionally it took some trouble to get him to move, but when he moved other things moved also. On the debating and oratorical

platform, in the tug-of-war, in stock-judging competitions, or wherever else he cared to fling his gauge, he was prepared strenuously to maintain his cause and never flinched whatever the odds. He is now doing well, having a position under the Department of Agriculture.

McVannel, A. P., St. Marys, Ont.

A. P. was President of his class in the final year. This statement speaks volumes for him. A good practical agriculturist with lots of ambition and ability, Mac's future is assured.

Weir, D., Montreal, Quebec.

"Doug." was the class musician and artist photographer. His violin and mandolin solos were entrancing. He was full of life and fun and always good company. As a specialist in biology, no one could photograph a microscopic bug like Doug. He was a good sport and a conscientious worker at his studies. He intends taking post-graduate work at Cornell.

White, G. G., Perth, Ont.

"Geordie" is a man to take note of. He made, perhaps, the most remarkable progress of any man of the year. He took first prize for public speaking in his third year, and first prize for oratory in his fourth year; was one of the successful debaters against Woodstock, and one of the trophy winners in the stock judging at Chicago. His star is still in the ascendant. He has been secured by his Alma Mater as an assistant in the Chemical Department.

Zubiaurs, A., Buenos Ayres, Arg. Rep.

"Zube" was a general favorite in the class. No one could have anything against him. Somewhat reticent, he never forced himself to the front; but his solid worth was always realized by his classmates. He has now gone South though he has left his heart behind

him, for which he intends to return in the near future.

The following four men originally belonged to the '05 class, but dropped from the course for a year and took their final year with the '06 boys:

Bower, J. E., Harriston, Ont.

"Dad" was a dairyman, and what is more a thinking as well as a practical man. No one was more sound or sane than Dad. His advice was always valuable and much sought. He has now a good position in the States.

Chisholm, J., Nova Scotia.

A practical man was John. This was realized in his third year, when he was chosen as manager of the farm at the State University, Columbus, Ohio. After he had spent a year there, he was allowed to return to finish his course at the O. A. C., his position being held open for him until he was able once more to resume his labors.

Barberee, G. L., Corwhin, Ont.

Barberee studied agriculture as to the manner born. He did not take a very prominent position in the student organizations, but attended to his business with unceasing care. He is now managing a large farm in the States.

Stewart, D., Stratford, Ont.

"Dokie" specialized in dairying. He was a good hand at making butter and cheese, etc. He enjoyed a joke as well as anybody, and his loud laugh was often heard ringing through the corridors. He is now secretary for a real estate agency in the West.

Hammond, H. S., Canterbury, England.

"Hammy" came to the college as a

chemistry expert. He took the four years in one, and graduated with honors. He is now in the States practicing the science for which he has such an affinity. And here endeth our enumeration of the men of the class '06. May every man of them continue in his efforts to leave the world better than he found it, and may success attend his endeavors. D. H. J.

HYMEN.

During the past summer cupid has been unusually busy among our graduates. Early in June Alfred Atchison, better known as "Jolly Alf," journeyed to his native Province and returned to his work as agronomist at Ames, Iowa, with Miss Millar, of Balsam, Ont., as Mrs. Alf.

Tired of the transitory joys attendant on single blessedness, and the aching void of a bachelor life, C. H. Rodgers, B.S.A., '97, of Grafton, Ont., next took the notion, and, too, fell a willing and happy victim to cupid's arts.

In order not to be outdone by any of his fellow ex-students, and finding in Miss Millar, of Brooklyn, his ideal of femininity, George A. Smith, B.S.A., '96, of the same place, decided that double harness was the only condition in which true happiness could be obtained.

The Review, students and classmates extend their best wishes for long lives, health and prosperity to these enterprising ex-students. May their roads be smooth, their loads be light and their troubles, if they do come, may they be little ones.

College.

ANOTHER vacation has slipped away. So much more has been added to the sum total of our individual experiences. We are on the threshold of another year of thought and effort. College Heights has again become the scene of happy, busy, throbbing life. Students, old and new, began to arrive on the 12th of September, and continued to pour in on the two succeeding days. An occasional recruit still drops in. The limit of accommodation, however, has not yet been reached. The enrollment this year is large, especially in the sophomore, junior and senior years, the freshmen class as yet being considerably below the standard in point of numbers. The "settling down" process is about completed. The initiation is over. "Sports Day" has passed, and study has commenced in earnest.

During the summer, much has been done in several departments, in the way of improvement. President Creelman is certainly untiring in his efforts to place this institution before the notice of the parents and young people of the country, to give every opportunity possible to every student coming here, to acquire such mental equipment as will make of him a valuable and patriotic citizen, and more than all that, to surround each student, while here, with agreeable and comfortable surroundings.

The residence itself has received its usual cleansing and renovation treatment with soap, water, oil, paint and whitening.

The interior of the gymnasium has been greatly changed for the better. Around the arch is painted drapery, the supporting pillars being stained to imitate marble; on the walls are painted within designs, the coats of arms of the Provinces constituting the Dominion, together with that of Newfoundland. The ceiling and woodwork of the walls have received fresh coats of paint. In the basement, in addition to the swimming tank, there have been installed shower baths.

An addition is being made to the Chemical Building, which will add greatly to the accommodation and efficiency of that important branch of college work. The addition is at the west side and rear of the original building. The large room on the first floor of the new wing, will be used as a practical classroom for first and second year students. This room is expected to accommodate 75 students. Another room at the back of the wing, is to be used as a laboratory. The old quantitative room will be used as a laboratory for dairy chemistry. On the second floor there will be a seminary room for small classes, a private laboratory for professors, and the stenographer's room. In the basement, will be a milling and baking room, for work with flours. Here also will be placed extra equipment for nitrogen digestion and ether extraction.

In connection with the Horticultural Department, four of the old greenhouses are being replaced by new and improved structures. Two of these are

to be used for experimental work in forcing vegetable crops, and two for floriculture and demonstrations connected therewith.

Provision has been made for outside experimental work with vegetables. Mr. A. McMeans, a commercial vegetable gardener, of Brantford, has been engaged as foreman of the Vegetable Garden Department.

At the Poultry Department a build-



C. C. THOM, B.S.A.
Demonstrator in Physics.

ing 110x16 has just been erected. This will prove a valuable addition to that progressive and well-managed department. Additional experiments in connection with profitable poultry-raising will be carried out.

The new Mechanical Building is well nigh completed. By means of this building, and the appliances which will be placed in it, students will have an opportunity to become familiar with

the setting up and operating of farm machinery, and to learn much along the line of metal work and carpentry. In addition to equipment and space for a course in machinery, metal work and carpentry, the building will contain a paint shop and a large class-room. The building is of brick, is large and presents a fine appearance.

A number of changes have been made in the staff. Professor McCready, B.A., formerly of the Macdonald Institute, takes the place of Professor Lochhead, who has accepted a position at St. Anne de Bellevue. Dr. Bethune, editor of the Canadian Entomologist, takes the place of Professor Sherman, who has returned to North Carolina. J. W. Eastham, B.S. (Edinburg University), for four years lecturer in biology in Cheshire Agricultural College, takes the position recently vacated by Mr. Thompson, while J. E. Howitt, B.S.A. (Ontario Agricultural College), M.S. (Cornell), takes the place of V. W. Jackson. Mr. G. G. White, B.S.A., one of last year's graduating class, enters the Chemical Department to replace Mr. H. L. Fulmer, who becomes demonstrator in chemistry in place of Mr. E. G. De Coriolis, who leaves to fill an important position in Cuba.

C. C. Thom, formerly connected with the Experimental Department, becomes demonstrator in physics instead of Mr. W. H. Day, who becomes professor of physics, replacing Mr. Reynolds, now Professor of English.

The June excursions to the college took place this year as usual. Our institution was visited by upwards of 40,000 people. Owing to the fact of there being so much unfavorable weather during the excursion period, and also to the fact that the railways were in some instances unable to furnish the rolling

stock necessary for the transportation of those desiring to come here, the numbers were smaller than they otherwise would have been. Every effort was made by the college officials to make each excursion as pleasant and as educative as possible.

The college organizations ran refreshment booths, souvenir tent, and parcel tent, from which about \$600 was realized, which sum was divided among the student organizations.

Since the appointment of Dr. Bethune



J. E. HOWITT, B.S.A., M.S.,
Demonstrator in Botany.

to the Professorship of Entomology at this College, the headquarters of the Ontario Entomological Society have been transferred to this institution. The society's entomological library, which undoubtedly is one of the finest on the continent, has been placed on the shelves of the college library. A very complete collection of insects belonging to the society has also been brought here. The Canadian Entomologist will have its headquarters here. This paper

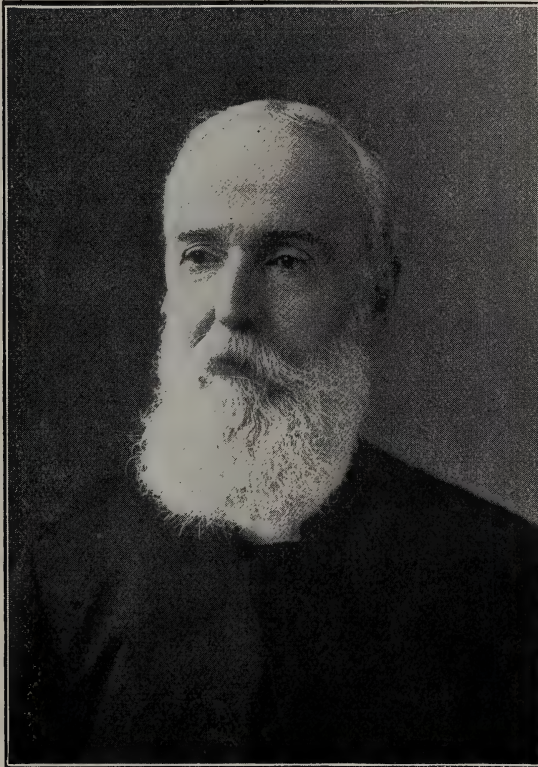
is pronounced by such men as Comstock, McGillivray and Rilley, to be one of the best, if not the best, magazine of its kind in America. Dr. Bethune, its editor, is conversant with the leading entomological literature of the day, and is an energetic and systematic entomologist, is a specialist in coleoptera and lepidoptera and has a wide reputation.

It is well known to most of our readers that at the commencement of each college year the freshmen and sophomores get out on the campus and have a friendly rub at each other, this being the sophomore method of commemorating their exit from the freshmen rank, and of reducing the freshmen to a becoming sense of the "eternal fitness of things." This interesting event, which is in vogue at almost all colleges, took place here on the night of the 21st. As to numbers and strength, the two classes were pretty evenly divided, and as to the issue of the fray opinion is divided. At any rate, the freshmen showed remarkable courage and spirit, considering that this was their first experience of the sort. Another fact in connection with the melee was that when "the boys came marching home," they showed unmistakable evidence of having come in contact, and in very direct contact, too, with an unlimited quantity of molasses, soot and tomato pulp. It was evident also that a number of the participants, during the contest, had disposed of some very useful articles of wearing apparel. Possibly the Royal City Rag and Metal Company were near at hand for the occasion. Some, however, heeded the familiar admonition to "save the pieces."

On Saturday evening, 22nd Septem-

ber, the gymnasium was the scene of a very different event from that just referred to. The Y. M. C. A. on this occasion tendered the freshmen a reception, the object being to get the new and the old students, and also the new students and the staff, acquainted. Miss A. Springer favored the gathering with a solo. President Creelman made a

pleasant event. On this occasion the junior members of the staff of the O. A. C. tendered Mr. E. G. DeCoriolis a banquet, he being about to sever his connection with this college, to assume a position in Cuba. Mr. John Buchanan, Lecturer in Field Husbandry, acted as chairman. Toward the latter part of the evening Mr. DeCoriolis was



REV. CHARLES J. S. BETHUNE, M.A., D.C.L., F.R.S.C.,
Professor of Entomology.

few remarks in his usual happy manner. Then chairs were put back; and all gathered around the piano for "a good old sing," after which refreshments were served. The pleasant evening's entertainment was concluded by the singing of "God Save the King."

On Monday evening, Sept. 24th, the King Edward Hotel was the scene of a

presented by the junior officers with a handsome gold watch, on which was engraved the DeCoriolis coat of arms. Accompanying this gift was an address, expressive of the happy relations existing between Mr. DeCoriolis and the other junior members of the staff, and wishing him all happiness and success in his new field of labor.

Athletics.

The Football Situation.

OUR new football league has been formed at last. It is to be called the Western Collegiate Athletic Union, and is composed of St. Jeromes, Berlin; Woodstock College; Western University, London, and our own Alma Mater, O. A. C. The executive consists at present of one member from each college, but one more member must be elected, as otherwise there will be danger of a deadlock. As Mr. Fairbairn was the originator and moving spirit in the formation of this league, it is highly probable that he will be asked to take the chairmanship of all league meetings, and another member from the O. A. C. will be elected to take his place. All games are to be played under O. R. F. U. rules, so that our boys will play the old snap-back game with which they are so familiar. The referee and umpire for each game must be appointed from the two colleges having an open date; thus, if O. A. C. and Berlin are playing, the officials are appointed from Woodstock and London, one from each. At the present time only a temporary schedule has been drawn up, as owing to the unavoidable absence of the London delegate from a league meeting at Stratford on Saturday, Sept. 22nd, the matter could not be definitely settled. However, our first game will likely take place at Guelph on October the 6th.

Well, now that we have got into our new company, "How are we going to pan out?" is the question tickling the

minds of all. What are the calibre of the teams we are going to meet; are they light and speedy, or heavy and slow; can O. A. C. win the cup? Let us take a brief survey of the various teams. Berlin possesses a young and light but very fast bunch, playing fine combination. Every man is a good sprinter, and a sure tackler. Woodstock and London are unknown quantities, but they are both sure to have teams that will be plenty fast enough to take care of their company. In our own stamping-ground prospects are exceedingly bright. We have a first-class football trainer in Hibberd, a captain who can play the game himself and knows how to inspire others to play it, and the nucleus of a good team left from last year. With such men as Murray, Jacobs, Treherne and Hoy in our lineup, there will be no need of making the mistake of former years of playing a one-man game. Weight this year is at a discount, and light, speedy men stand the best show.

The formation of this new league is a matter for the heartiest congratulations among the students and faculty of this college. By it we are brought into the congenial company of college students, have a compact league with attendant light travelling expenses, and may always be sure of receiving fair and gentlemanly treatment both on and off the field, and also in the committee-room.

All due praise should be given Fairbairn for his efforts in forming this

league. It was entirely owing to his visits to our sister colleges that sufficient interest was created to warrant the drawing up of a schedule. The league this year is only an experiment, but an exceedingly promising one; and it will require the individual support of all four colleges to make it the brilliant success it should be. If the football league works well this fall, schedules will be arranged for hockey and basketball games after Christmas. As will be noted, the term athletic union allows of the addition of any such line of sport as may interest the various colleges.

But now that we have our new league going, we must get down to hard work to develop a winning team. Championships cannot be won without the most earnest support. Every student who can play football, be he freshman, sophomore, junior or senior, should turn out on the field every night. Give Captain Foster a chance, and he will produce a team of championship calibre. Competition is the spice of life, and the more men that turn out, and the harder a man has to work for his place on the team, the better team we shall have. If you cannot play football, pay your dollar readily, and help the boys on in that way. Winning teams must be supported with money at least.

But let it be emphatically understood that money is not everything. The team must have your personal support and interest. Go out and root every game, and encourage the men with cheery remarks and the college yells. Let other people know that you are alive, and let the team know that they have the enthusiastic backing of every member of the college. That's what puts life into a team. Try it once, and see. Home teams generally win. This

is because of the support they receive at home. So, when our team goes visiting, go with the boys and root! root!! root!!! You will always have a good time, and perhaps help to beat the other fellows.

A word as to how the team is picked. Before each game the executive goes carefully over the list of promising players and selects those that they think will fill each position to the best advantage. A freshman has as good a chance as any other student. Many a promising freshman is given a trial to show what he can do, because we all know what the older students are capable of, and take the risk of finding something better. So turn out, freshies, and take your chance.

Let no freshman, nor any other student, run away with the idea that the Athletic Association is not going to do anything for those not able to win a place on the regular team. They propose to form a second team which will be given matches and training throughout the season. This second team will only be a stepping-stone to higher honors, and any student who makes the second team one term, may be reasonably sure of getting a place on the first next season. Turn out and work, everybody, and make one team at least. For those who cannot play football through physical cause or disinclination, basketball poles may be erected on the campus, and the tennis courts are always available. Rugby is the king game at this college, and every man should play it, if possible. Even if one does not make the team, he gives the regulars a brisk practise, and that adds materially to the team's chances of success.

We are pleased to note that our old

friend Hibberd is back with us once more. During last term he made an enviable reputation for himself. He certainly always gave us the best work that was in him, and for courtesy and close attention to seemingly unimportant details, his equal would be hard to find. On the whole, athletics flourished better last year than in any previous term in the history of this college. This can be attributable to no other cause than the engagement of a competent physical instructor for the first time. With the experience he has gained last year, Mr. Hibberd will this term be able to make athletics hum, and our football, hockey and basketball teams will once again win honor and trophies for our college. Personally, Hibberd is a right royal fellow, and no man can make any mistake in intrusting his physical training to him. May we always have one as good as he.

There has been considerable discussion among some members of the college team as to whether the Athletic Association should pay for the uniforms of the first team. There is considerable justice on their side. When a man turns out faithfully to practise every afternoon, and spends every moment of his spare time in training, and loses the whole of every Saturday either playing a match here or at another college, he is certainly playing football at the expense of his studies. It is not only the time lost from study, for a good footballer is constantly thinking of what he could have done or should have done in a certain trick play, and is constantly devising new tricks and schemes to outwit his opponents. Study under such conditions is impossible. If a man could only forget; but he can't. When, to top this, each player has to lay out

at least seven dollars for an outfit, it catches each man hard, and he begins to wonder if the honor alone is worth the price he is paying. There is no doubt that the team should have at least part of their outfits given to them, but this could only be done in the presence of a full and overflowing treasury, a thing which does not exist at the present time. It is not fair to compare the treatment of our team with the treatment of teams which can collect big gates at each game, as our boys have to depend on personal subscription alone for support. Either our students must pay more money for the support of the football team, or devise other means to get it. To make up for this very deficiency in funds so that our college teams may in future be better supplied with money for expenses, the Athletic Association is seriously considering the holding of a concert in the gymnasium some time before Christmas. As this would be a purely college event, it should prove very popular, and would well deserve the patronage of everyone connected with the college.

This year's executive, following the lead of their predecessors, have decided to cut out all inter-year games as far as possible, thus doing away with all inter-year spirit and developing a strong college spirit. The effort is most certainly a laudable one, but we are at once met with the query, "Is it wise?" It is a well-known fact that many men, who would not otherwise turn out, do so under the stimulus of a year spirit, and, as was the case last year, many of our best players are thus discovered. We must have games throughout the season, for every man that wants to play, and these must be either with outside teams or among ourselves. Our position

is such that we can get very little practise from outside sources, and under such conditions we think inter-year games have a place in college athletics. A man cannot do his best if overburdened with matches, so these inter-year games must of necessity be played either before or after the regular schedule with outside teams, preferably before. Under such circumstances every man would be given hard, heavy practise in real games, and our best players readily picked out. By the time the regular schedule was on all year spirit would be forgotten, and a second team could then be formed to play outside matches. This, of course, applies to hockey and basketball more particularly, as football games very early in the fall are almost impossible because of the late opening of our college.



Macdonald.

MACDONALD Hall is once more open, and the corridors resound with happy voices—those of the old girls who are overjoyed at being together again, and those of the freshettes, making acquaintances and discussing everything in general and particular. Opening day saw many bewildered faces, but all were relieved as one after another they parted with their money and received a Chinese puzzle in the shape of a programme card. Now they have almost discontinued asking questions and feel quite like old-timers.

Our range of influence has widened this year, and we welcome girls from England on the East to Regina on the West. Residence is not yet quite full, but we are expecting more in spite of the late registration fee. The Nature Study Class is very small—only ten—so we shall not be over-run with beetles, bugs and butterflies. The Homemaker and Short Course Classes are quite full of girls longing for house practice to commence. The old girls feel keenly the loss of two of their class—Miss Adah Merritt, of the Senior Normals, whose ill-health compels her to rest at home during this year, and Miss Edmondson, of the Senior House-keepers, who is putting into practical use the knowledge gained last year. However, we hope that they will both do credit to the classes of '08. Of course, as usual, the "Little Junior Normals" are delighted with everything, and fall in love with one teacher

after another in the proper order. The best we can wish for them is that they may enjoy their junior year as much as did the juniors of last year.

Changes have been made on our staff, too. All the old girls are delighted to see Miss Ferguson, who has taken Miss Holland's place. Miss Speller is continuing her studies at Columbia University, her place being taken in the Domestic Art-Rooms by Miss Greist, of New York. Miss Bigelow has been added to the regular staff, with quarters at the Institute. We miss her at the Hall.

Macdonald Societies.

Miss Carlyle has been appointed President and Miss Drummond Secretary of the Senior Class Society. All communications should be addressed to the Secretary.

The Literary Society has been re-organized, with the following officers:

Honorary President—Miss Watson.

Honorary Vice-President—Dr. Ross.

President—Miss Dutcher.

First Vice-President—Miss Evelyn Allan.

Second Vice-President—Miss Forbes.

Recording Secretary—Miss Burns.

Corresponding Secretary—Miss McMillan.

Treasurer—Miss Sylvester.

Social Convener—Mrs. Fuller.

Musical Convener—Miss Robertson.

Programme Convener—Miss Drummond.

Membership Convener—Miss Dearness.



GRADUATES IN DOMESTIC SCIENCE, '06.

Meetings will be held fortnightly on Friday evenings, at 7 o'clock, in the gymnasium of Macdonald Hall. The character of the meetings may be judged by the following programme, which has been arranged for this term:

Oct. 5—Miscellaneous evening.

Oct. 19—An evening with Kipling.

Nov. 2—An evening with Browning, by Prof. Reynolds.

Nov. 16—Art Gallery and a play.

Nov. 30—An evening with Henry Van Dyke.

Dec. 14—Quotation bee.

Y. W. C. A.

The Young Women's Christian Association of Macdonald Hall has been reorganized, with the following executive:

President—Miss C. E. Elliott.

Secretary-Treasurer—Miss J. D. Ross.

Corresponding Secretary—Miss M. McLennan.

Convener of Membership Committee—Miss K. MacLennan.

Convener of Missionary Committee—Miss E. L. Pickett.

On Friday evening, Sept. 21st, the old members of the Y. W. C. A. entertained the new girls for a few hours in the gymnasium. After an evening of games, music and refreshments, the girls went to their rooms feeling that it was good to be at Macdonald.

The first regular meeting of the Y. W. C. A. was held in the gymnasium on Sunday evening, at 7 o'clock. The meeting was bright and enthusiastic, and we hope to have many more such during the coming year.

Bible and Mission Study Classes have also been reorganized under the auspices of the Y. W. C. A., and it is our aim to make them even more successful than they were last year.

Normal Graduates of 1906.

Miss F. P. Pritchard is teaching Domestic Science in the public school at Florenceville, Ont.

Miss M. E. Gallup is in charge of the D. S. Department in the Ottawa Ladies' College.

Miss K. R. Bartlett has the D. S. Department in the Halifax Ladies' College.

Miss H. M. Card has a position in the Department of Agriculture of North Carolina. She is doing Institute work, and is assistant in the Chemical Department.

Miss L. K. White is dietician in the hospital in Hamilton, Ont.

Miss R. V. Gardner is teacher of Home Economics in a private school at Far Hills, New Jersey.

Miss J. Hamilton is teaching D. S. and other classes in the Macdonald Consolidated School in Guelph.

Miss DeLury and Miss McKaig are

completing their education at Columbia University, New York.

Miss Bodwell is teaching public school at Prince Albert, and Miss Penfold at Lacombe, Alta.

Miss Davis is at 'Varsity, and hopes to graduate in '08 with the degree of B. H. S.

Miss Kate Cameron is on training at Grace Hospital, Toronto.

Miss Cleland is teaching public school in Newmarket, Ont.

The remainder of the girls are giving their home folks the benefit of their recently-acquired knowledge—Miss McMurchy in Harriston, Ont.; Miss Robertson and Misses Winchester in Toronto; Miss Belle Cameron in Durham, Ont.; Miss Shaw in Penobsques, N. B.; Miss McDonnough in Sorel, Quebec; Miss Fleming in Owen Sound, and Miss Bickell in Toronto.

We congratulate all the girls on the positions which they have received, and shall look for good news from them all. We hope they will enjoy their work and make the Macdonald even more famous than it is at present.

We had a treat on the 25th, when Miss Watson called us all to the Assembly Hall to meet Mrs. Norton of the Household Science Department, of Chicago University, who stopped off to spend a day with us on her way home from attending a Household Science Convention, which was recently held at Lake Placid, in the Adirondacks. Mrs.

Norton gave us a brief, bright address, in which she related many of the interesting details of the Conference. The report made many of us dream of the happy time when we may be presidents of colleges and enjoy the privilege of attending such meetings. Mrs. Hoodless, of Hamilton, was also present, and welcomed the new girls to the Macdonald.

Well, we had a party at our house last night. The Ancient Normal Class of nineteen hundred and seven entertained the frivolous and frisky juniors of naughty eight. Grandma Elliot received in a gown of satin and velvet mixed, with "point de split" fichu. Grandma Warner gazed sorrowfully over her specks at the unseemly behavior of the rising generation. All the children on their knees vowed allegiance to President Carlyle, after which we "Farley" raised the roof. We "Kent" describe the fun we had. Our grandmothers, although lacking in O. A. C. training, taught us the beautiful song, "Thus the Farmer Sows His Seed." Then our aunties served a dainty tea-party. The refreshments were "Nestle's Food," bread spread with Aunt Mary's jam, all-day suckers, Noah's Ark biscuits, big red apples and sugar chookies. After tea the children joined sticky hands and sang "Auld Lang Syne." Then sleepy, but happy, little ones each received a cracker and were taken home by their aunts and grandmamas.



Locals.

Book Review.

"How to Earn Your Bread and Butter While Asleep"—By. D. M. Rose.

This is a "shocking" book. The energy which the author has put into every effort is remarkable. We would recommend all, and freshmen especially (who are a little apt to lag), to read this. After reading this book one feels his whole inner nature stirred up to do

the remarkable way in which he throws light on the character of Willie, the hero. One cannot but feel struck by his long, lingering endurance and his "stick-to-it-iveness," to quote a slang phrase. The event of greatest dramatic interest, however, is where Willie is enthusiastically approaching the crucial point in his speech. He is holding the audience spell-bound with amazement



THE REST CURE.

or die, or in the words of the poet, to "Press on! Achieve! Achieve. If at first you do not succeed do not despair." Remember D. M. R. was, like yourselves, a freshman before he attained the heights, which he now holds.

"Where Was Boddy When the Lights Went Out?"—By W. J. Hartman, Macdonald Institute.

The author has shown great skill in

(at his long windedness), when, by some accident (?) the lights go out. Nothing daunted, however, he finishes his speech and sits down 'midst intense silence.

This incident puts us in mind of the story of the Scotch minister who preached a very long sermon. One by one the audience filed out until only Sandy, the Beadle, was left. Sandy sat and bore it as long as possible, and then

rising and walking slowly up to the pulpit, he laid the keys down before the minister and said, "Here's the keys, meenister. When ye're through ye can lock up. Ah maun awa' hame."

"Frauds and How to Detect Them"—
By W. C. Owen.

The author has spent a great deal of time all summer investigating all sorts of frauds. He is well qualified to talk on the subject. Among other things he takes up the chocolate cream, chocolate cake and several other things.

"Some days I can go for three weeks without water?" "That was an Irish camel." "No, you are wrong, it was the Pelayo Diaz."

Would some kind person let the freshmen out of their difficulty and inform them where the horses are kept for the jockey race on Sports Day. We have had many anxious enquiries, and the freshmen seem quite restless about it.

The editor suggests that after this year it be called the donkey's race, and then there would be no ambiguity. The only objection to this would be that it would limit it to the first year.

The initiation has once more come and gone. The weather prophets had foretold dampness, but owing to some miscalculation the dampness did not appear. However, this did not prevent the freshmen running up and capturing a hose which no one was guarding. Although there was no decayed hen fruit in the air, nor lampblack to cloud the vision, still the freshmen managed to raise a great "Reek."

With a "Strong" hand, however, the sophomores held them in check, and

after a good half-hour's fight the freshmen retired, torn, sad and bedraggled with molasses.

Overheard at the sophomore meeting, Strong in the chair:

Treherne—I declare, the nominations closed.

Tweltridg—I second that motion!

Poor—Old—England.

Advice to Freshmen.

1. Do not wait to start eating until you are told to do so by Mr. Jones. He is not in the dining-room for that purpose.

2. Don't touch your hat and say sir! to the other students. They are not worth it.

3. If any freshman would like to correspond, with a view to matrimony, enquire for further particulars and photographs from Charles Holcombe.

4. When going canoeing; first consult the college experts, Messrs. Dawson and Slater. But don't let their advice upset you.

5. Always look to see if the chair is there when you sit on it.

Young Lady, on S. S. Empress of Britain—The inspiring breeze, the rushing water, the rise and fall of the boat, all raise within me emotions hard to express.

Turney—Them's my sentiments.

The other day when going down past the new greenhouses we came across Coke standing with such a look of bewilderment that we at first took him for a freshman. We asked him the cause of his astonishment, and he asked, "Why are these men washing these dirty stones! Alas, how are the mighty fallen. We took him by the arm and led him gently away.

The man from whom a black smock was removed on initiation night is steadily improving, notwithstanding the seriousness of the operation.

There were the usual number of small by-plays witnessed at the initiation this year, such as freshmen fighting with freshmen, and sophomores with sophomores. This year, however, one of the sophomores was original and took after a fourth year man. The fourth year man ran until he could run no further, and then turned to bay. This incident, however, has a value as it has shown the fourth year that they have a runner in Jacobs. We suggest that they enter him for the quarter-mile and engage MaCrae to chase him with a basketful of rotten tomatoes.

English as she is wrote. The following notice appeared on the bulletin board:

Anybody found a rist watch on windowsill in liberie. Finder please apple to W. P. Thomson.

Professor Reynolds (lecturing to Homemakers): The young ladies will please write an essay on their impressions of the Institute. This essay may be confined to the institute proper or may include the Agricultural College, etc.

Hodgins—Get your hair fixed, Mac.

McEwen's friends and admirers will be sorry to hear that he intends taking up a Homestead next year some time. Before he takes this step, however, we would warn him to take care lest he over-reach himself.

Neville dreamt the other night that some demons came in and danced all around his bed. One had shaving soap

and brush, and another had a razor. They proceeded to shave off the hirsute adornment which so conspicuously marked him. After doing this, he said he seemed to feel the bed give way with him and he was launched into space. However, this did not wake him. In the morning when he awoke he found himself below bed, mattress and bed-clothes, and his moustache gone.

Moral—When going to bed, do not eat a heavy meal or you may dream just like Neville.

Mr. Boddy still continues his work. He is now trying to form a Temperance Society among the alcohol-soaked specimens in the Biological Department.

First Freshman—What is wrong with that sophomore?

Second Freshman—Oh, he has an ulster at the root of one of his teeth.

[Ed.—Very handy, indeed, especially in rainy weather.]

The other day while showing the freshmen round the farm, Professor Day took them to see the cultivator. After a long explanation as to the use of the machine, Thomson asked him if that was the machine with which they did their sowing. Can anyone inform us whether Thomson's mother knows he is out.

President Creelman, the other day, came across a student who was evidently trying to level the cement sidewalk, as he was rolling the roller along it. Not wishing to allow the freshie to break the sidewalk he requested him to roll the roller on the grass. The freshman, who, by the way, is called Morehouse, without troubling to see who

was addressing him, exclaimed, "I will, like a jugful."

Now, be careful, freshmen. President Creelman is very good-natured, and will stand quite a lot, but when it comes to a jugful—

While N. D. Mackenzie was away he still kept up his reputation for eating, as the following story will show:

He was dining one day at an hotel, and, after taking quite a dinner, the waitress forgot to bring something which he had asked for, and he immediately started to call her down. She, however, was ready for him, and said, "Well, if you would tell me what there is on the menu card that you don't want perhaps I will remember better!" Talk about Epicurus, he would not be in it with Mac at the same table.



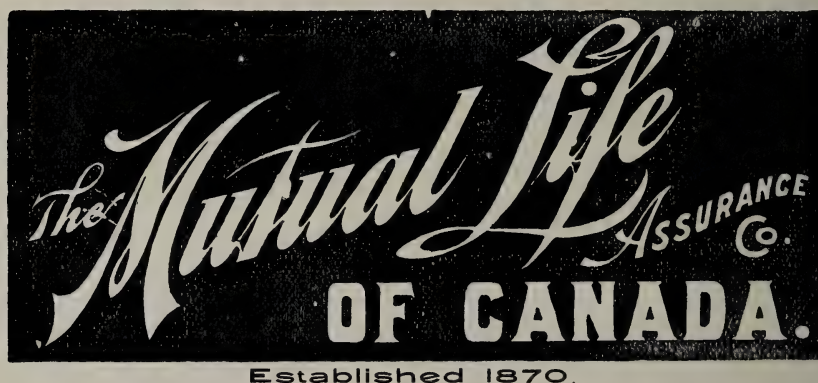
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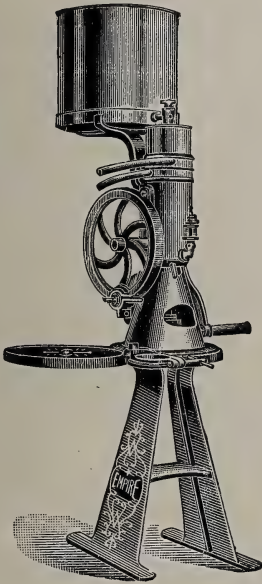
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because he does GOOD WORK
and always aims to please. . .



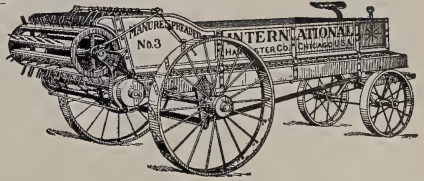
He calls on Mondays, Wednes-
days and Saturdays.



Workshop and Office on
ST. GEORGE'S SQUARE.

Things Worth Knowing

If You are Going to Buy A MANURE SPREADER.



NO machine within his reach is capable of doing so much for the farmer as the modern manure spreader.

But then it must be a machine with features—features of economy and efficiency.

The I.H.C. Manure Spreader has such features.

Any man of experience knows that a spreader only works perfectly when the load is level.

The I.H.C. Spreader is the only spreader with a vibrating rake in front of the beater or cylinder which levels the load of manure.

Every man knows that the apron operates better when power is applied at both sides.

The I.H.C. spreader apron is driven at both sides from both hind wheels.

This saves all binding, friction and undue strain, and consequently saves breakages and results in lighter draft.

One lever is better than many levers in operating any machine.

The I.H.C. spreader is the only spreader which is controlled and operated entirely with one lever.

It has a wide range of feed. You can spread thick or thin as you desire.

Large, solid steel axles, front and rear—front wheels cut under—turns very short.

Steel wheels—no rotting or drying out. Broad faced tires with turned-in flange to keep out dirt, mud, etc. Lightest and strongest.

Provided with traction lugs on rear wheels—will work perfectly on hard, frozen or wet ground.

Made in various sizes to suit all requirements.

The I. H. C. spreader will distribute perfectly manure of all kinds—wet, dry, mixed, strawy, full of stalks, frozen, caked, etc.

It may be equipped with special features known as lime and drill attachments, for distributing broadcast or in drills, fine manure, commercial fertilizers, lime, ashes, salt, cotton seed hulls, land plasters, etc.

Remember what we have told you—it is the manure spreader with special features which all make for success.

Call on the International Agent for information, or write nearest branch house for catalog.

CANADIAN BRANCHES: Calgary, London, Montreal, Ottawa, Regina, St. John, Toronto, Winnipeg.

International Harvester Company of America, Chicago, U. S. A.

(INCORPORATED.)

If you appreciate GOOD VALUES, you will be
sure to buy your

Shirts, Ties, Collars, Hats, and Furnishing Goods

Here. The choicest stock in the city.

My Tailoring Department

Is one of the most reliable in the trade. First-class, stylish clothing made to fit perfectly, and satisfaction always assured.

See My Stock of Fine Up-to-Date Goods. Only
One Price.

Good marked in plain figures. Be sure and give me a call.

R. E. NELSON,

Next Traders Bank
Just above the Post Office

Men's Furnishings
Hats and Fine Tailoring

Tweltridge has had quite a large hunting season all summer, but sad to relate, has caught nothing yet, in spite of his "auburn 'air."

Laughland, one day while camping, startled the serenity and peacefulness of the camp by announcing that he had found a marvelous book, written in an unknown language, and differing from our own books in that it had little or no margin at the top of the page. On investigating the matter, we found that Laughland had been trying to read the book upside down.

Don't laugh at Laughland, gentlemen. It's the Climate.

Crow—Well, there will probably be two or three "peaches" and several cases of grapes—sour ones.

The Favorite of Them All!



IS
**TOLTON'S NO. 1
DOUBLE
ROOT CUTTER**

Points o Merit :

- 1—To change from pulping to slicing is but the work of a moment.
- 2—There are two separate wheels, one for pulping and the other for slicing.
- 3—The united force of both wheels is always used in doing the work in either capacity.
- 4—The hopper is between the wheels and does not choke.

Most Efficient and Largest in Capacity.
Fitted with Roller Bearings, Steel Shafting, and all that is Latest and Best in Principle, Material and Construction.

OTHER SPECIALTIES :

Pea Harvesters, Clover Bunchers, Haying Tools and All-Steel Seed Harrows.

Send for Descriptive Circular.

TOLTON BROS., LTD.
GUELPH, ONTARIO

The Traders Bank of Canada

ASSETS OVER THIRTY MILLIONS (\$30,000,000)

IT IS THE
Farmers' Bank



NEXT DOOR TO
The Post Office

WYNDHAM STREET
SPECIAL ATTENTION PAID TO FARMERS' BUSINESS

Loans Made Deposits Received
The Most Favorable Rates and Terms Given
A. F. H. JONES, Manager

Can't We Supply the Fall Tailored Suit for You, Mr. Man?



If you'll scan through the immense display of new cloths and tweeds, your answer will be :

"Well, I had no idea that such a showing was here."

Lots and lots of men are just in your fix—paying enormous sums for suits—not a bit better or made a fraction nicer than these suits we turn out.

The old story of extravagance will sooner or later cause many a regret.

Save yourself this future annoyance—save money now—see the fall display of all the new and wanted materials—good enough for the best-dressed man in town.

Our tailoring must be satisfactory to you or the suit is ours—not yours at all.

Is this a straight proposition?

D. E. MACDONALD & BROS.

Men's Clothiers and Furnishers, Lower Wyndham St.

Foreign Advertisers in the O. A. C. Review

Should seriously consider whether they can refrain from advertising in

The Guelph Weekly Mercury

The Weekly Mercury was established 1854, and has a sworn circulation of 4,844 copies per issue. Its clientele embraces the most progressive farmers and stock breeders in one of the oldest and best agricultural sections in Canada.

An advertisement in the Weekly Mercury always brings paying results.

J. J. McIntosh.

Please mention the O. A. C. REVIEW when answering advertisements.

G. B. RYAN & CO.

Importers and Dealers in Everything Pertaining to Women's and Men's
Apparel

A Square Deal for Every Man

Boys! You will find it to your advantage to tell us your troubles. Whatever you want, we have it.

Fine Ordered Clothing

High-Class Ready-to-Wear
Clothing

Fine Footwear

Up-to-Date Hats and Caps

A Very Extensive and Natty

Assortment of Furnishings

Everything New

Everything Right

Your Money Back if Dissatisfied



Try G. B. Ryan & Co.'s for anything you may require in general Dry Goods.

A House noted for Good Styles, Fair Prices and Courteous Treatment.

A half-hour spent with us will invariably prove an interesting and profitable pastime.

G. B. RYAN & CO. - GUELPH

"We Do What We Say."

STUDENTS

THE
Art
SHOE



**THE BEST
AT ANY PRICE**

We Welcome You

to our city, and when in need of anything in the SHOE and RUBBER line we will appreciate a call. We sell the best makes of shoes, such as the

Geo. E. Slater, Invictus, Beresford, Sovereign, The Art, and Miss Canada

Also a full line of sporting shoes.

KNECHTEL'S

Don't mistake the place. First shoe store you come to coming from the college; on Market Square. Bring your repairing to us.

A POWER on Every Farm

THERE should be a power of some kind on every farm.

It saves labor, time and money, and increases the earning capacity of the farm.

It will work the raw material of the farm into a finished product.

All up-to-date farmers agree that the modern Gasoline Engine is the best farm power.

Our I. H. C. gasoline engine is the **best gasoline engine.**

It is strong, durable, long lived and is of full rated, actual (not estimated) horse power.

It is easy to operate and is easily kept in running order.

It develops the maximum of power with the minimum of fuel.

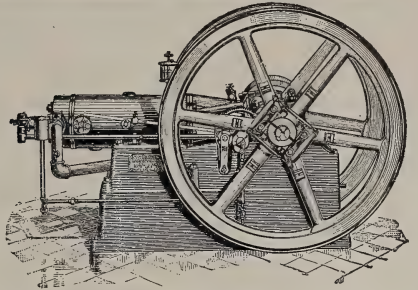
I. H. C. gasoline engines are made in the following styles and sizes:

Call on the International Agent for Information or write nearest branch house for catalog.

CANADIAN BRANCHES—Calgary, Montreal, Regina, Toronto, London, Ottawa, St. John, Winnipeg.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO, ILL

INCORPORATED



Horizontal—(Portable and Stationary), 4, 6, 8, 10, 12 & 15 Horse Power.

Vertical—2, 3 & 5 Horse Power.

Specially adapted to cutting dry fodder and ensilage husking, shredding and shelling corn, threshing and grinding feed, sawing wood, separating cream, pumping water, etc.

Indeed there is no service required of a power that will not be performed most satisfactorily by this engine.

If you are not intending to purchase an engine now, you may want one in the future and really ought to know more about them.

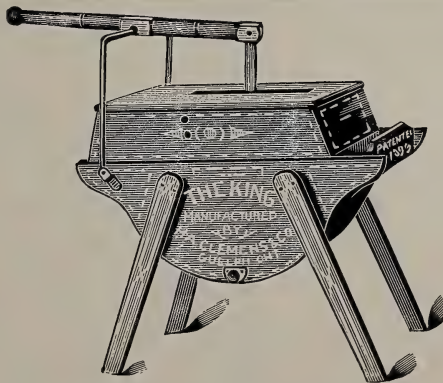
The King Washing Machine

Wholesale and Retail
Dealers in

**LUMBER
LATH and
SHINGLES**

All Kinds of

BILL STUFF, Etc.



Manufacturers of

**DOORS,
SASH,
FRAMES.**

All Kinds of

**BUILDING
MATERIAL.**

THE H. A. CLEMENS CO., LIMITED

MANUFACTURERS OF

WASHING MACHINES, STAIR BUILDING and INTERIOR FITTINGS A SPECIALTY

Phone 50.

GUELPH, CANADA.

Please mention the O. A. C. REVIEW when answering advertisements.

The Dunlop Tire and Rubber Goods Company have cut loose from all time-honored customs and traditions and adopted the rules proposed by the Simplified Spelling Board. Henceforth all Dunlop advertising will be spelled in the new way. This will be a very important gain to the reformed spelling movement, for the company has branch houses all the way across the continent from Vancouver to Newfoundland, and issues a vast amount of advertising and commercial literature from year to year.

It is rumored that Dan Johnson still adheres to his determination to specialize in dairying. We admire his nerve.

The sophs and freshies have cemented their friendship with molasses. They stick together fairly well.

STUDENTS

Will find a

SAVINGS ACCOUNT

- in -

The Metropolitan Bank

both

USEFUL AND PROFITABLE.

⇒	Capital	-	-	\$1,000,000	⇐
	Reserve	-	-	\$1,000,000	

"A Safe Place to Deposit."

Guelph Branch :

A. G. FLETCHER = = Manager.

NOTE—The spelling in this text is in accordance with the rules laid down in circulars 1 and 2 of the Simplified Spelling Board, endowed by Andrew Carnegie.

Dunlop Rubber Trade Mark



At first the Dunlop trade mark, the two hands, express the ease with which Dunlop Bicycle Tires were attached and detached, and while it still stands for this merit, as applied to both bicycle and automobile tires, it stands also for good quality in rubber.

To speak metaphorically, the Dunlop two hands have grasped a firm hold on the rubber business generally. They are now stamped on no fewer than thirty kinds of rubber goods. These include:

PNEUMATIC TIRES

for Bicycles, Automobiles,
Sulkies and Ambulances.

SOLID RUBBER TIRES

for Carriages, Buses, Fire
Apparatus, Motor Trucks
and Baby Carriages

"Comfort" Rubber Heels,
"Ideal" and "Bar" Horse
Pads.

"Polar Bear" and
"Ebony Black" Packing.
Mats, Matting, Tiling, Tubing,
Hockey Pucks, Etc.

Always remember the two hands when buying anything in rubber Dunlop's make. It is a trade mark that will fulfil your highest opinion of what good rubber should be like.

**THE DUNLOP TIRE &
RUBBER GOODS CO.**

LIMITED.

HEAD OFFICE AND FACTORY
BOOTH AVENUE, TORONTO

Depots
Montreal, Winnipeg, Vancouver, St. John.

Men's
Goods**E. R. BOLLERT & CO.**Ladies'
Goods

THE Faculty, Students of the O. A. C. and Macdonald Institute will find this store ready to serve their wants to the best advantage. We are pre-eminently a Ladies' and Gentlemen's Outfitting and Furnishing Store. No matter what your needs this store is ready to supply them with good goods at moderate cost. We have always been favored with a large business from the personnel of the College. We shall pay special attention for its continuance and increase.

Men's Section

Fine Ordered Clothing at Moderate Prices.
Fit-the-form Ready-to-wear Clothing, very good and very cheap.
Best Styles of Hats and Caps at closest prices.
Up-to-date Shirts. Collars, Ties, Gloves, and Fancy Furnishings, not at fancy prices.
Underwear, Hosiery, Etc., grand values.

Ladies' Section

Dressmaking at very reasonable rates.
Ready-to-wear Coats, Skirts, Blouses, Etc. in great variety of new things.
MILLINERY—All the Novelties of a first-class Millinery Business constantly received
The Underwear and Furnishing Stocks are crowded with good goods at low prices.
Belts, Collars, Gloves, Hosiery, Handkerchiefs, Etc., Etc.

25 and 27
Wyndham St.**E. R. Bollert & Co.**25 and 27
Wyndham St.**STUDENTS**

at the

O. A. C.

and

Macdonald Institute

Will find there is only one Bookstore in Guelph with a complete line of text books and note books. Ask anyone who has been there.
The name :

Chas. L. Nelles**Upper Wyndham St.**

This advertisement and \$4.75 will pay for \$5.00 worth of books.

CENTRAL**Book Store**

Opposite where the Street Cars stop.



Text Books Exercise Books Foolscap
Writing Pads
Up-to-Date Note Papers and Envelopes
Papetries, Etc., Etc.
Bibles Hymn Books
Books by Standard Authors, Poets,
Prayer Books

In fact, everything kept in a well-ordered Book Store.

**C. ANDERSON & CO.**

Water Your Milk



By installing an outfit of
Woodward Water Basins.
Do you know that they will
Pay for Themselves

In one year, by increasing the **QUALITY AND QUANTITY OF MILK?** No other basin on the market has our

Patented Rubber Valve.

Controls and regulates quantity of water.

**Windmills, Pumps, Grinders,
Wood and Steel Tanks,
Gasoline (Stickney) Engines.**

Ontario Wind Engine & Pump Co., Ltd.
TORONTO.

CANADIAN OFFICE & SCHOOL FURNITURE CO. LIMITED PRESTON, ONT



**OFFICE,
SCHOOL,
CHURCH,
& LODGE
FURNITURE**



**FINE BANK, OFFICE, COURT HOUSE AND
DRUG STORE FITTINGS
A SPECIALTY**

SEND FOR CATALOGUE

BRANTFORD ENGINES.

STRICTLY
HIGH GRADE.
2 to 25 H.P.

The Perfected Product of Many Years' Experience.

Also Makers of Steel Windmills and Water-works Outfits, Etc.

WRITE US.

Lowney's Chocolates

When you eat Chocolates you want to enjoy the best obtainable. Lowney's goods have a world-wide reputation, and are always to be relied upon. J. A. McCREA & SON can supply you. Let us have your order when getting up those little "Suppers."

J. A. McCrea & Son

Two Stores :
Wyndham St. and Elora Road

UNDERWOOD

VISIBLE TYPEWRITERS



Used by the Ontario Agricultural College
All Makes of Rebuilt Typewriters
Write for Price List.

UNITED TYPEWRITER Co., LIMITED
TORONTO, ONT.

THE LITTLE TAILOR STORE

COLLEGE MEN

Are usually particular about their appearance.
They demand character in their clothes.

We make the kind of Suits and Overcoats
that give a man that "well-dressed" appearance
so much desired.

We make the Clothes to fit the man; TAILOR
individual style and shape into them.

ABOUT OUR PRICES

Being on a side street, our store rent is very
small compared with main street rentals.

It is this combination—a big business done
in a small store, with very light expenses—
that makes it possible for us to turn out such
high grade work at prices so much less than
other tailors have to charge you.

Tweed and Worsted Suits	Blue and Black Serges
\$15 to \$25	\$18 to \$27
Overcoats \$16 to \$25	Trousers \$4 to \$7.50

R. J. STEWART

Opposite Knox Church, Quebec Street

Please mention the O. A. C. REVIEW when answering advertisements.

Windsor Cheese Salt

- will salt more curd at less cost
- will salt the curd thoroughly and evenly
- will insure the cheese being firm and smooth

Windsor SALT

—will "keep" the cheese better, and preserve its rich flavor.

It pays to use WINDSOR SALT for cheese making, as you will find out after your first trial
Your dealer has it, or will get it for you.

IF

You think a furniture store
should have what you want, we
can fill your order and save you
money on every purchase. TRY
US.

GRANT & ARMSTRONG

Furniture Dealers and
Upholsterers

GUELPH - - ONTARIO.

Store a few doors above Post Office.

THE - BUSY BOOKSTORE

O.A.C. and Macdonald Students
cannot do better than come to
us for all College Supplies. A
full line always in stock.

Buy a Sterling Fountain Pen
and stop dipping.

Scott & Tierney

Phone 72

Lower Wyndham Street.

Headquarters for
Foot Balls
Rugby Balls
Basket Balls

Etc., Etc.

Sole agents for

SPALDING'S SPORTING GOODS.

STUDENTS' LAMPS, Etc.

McMillan Bros.

Successors to G. B. Morris

22 WYNDHAM STREET.

Phones 3I, 88a, 266a,

DOMINION BANK

GUELPH

Capital Paid Up - - - \$3,000,000

Reserve Fund and Undivided Profits \$3,565,000

A General Banking Business Transacted.
Savings Bank Department in connection
with all offices of the Bank.
Deposits of \$1.00 and upwards received.

Bankers for the O. A. C.

Manager Guelph Branch

H. C. SCHOLFIELD

The Canadian Bank of Commerce

Established 1867.

Head Office, Toronto

B. E. WALKER, General Manager

Capital (paid-up) \$10,000,000
Rest - - - 4,500,000

GUELPH BRANCH

A general banking business is transacted.

Bankers for the Dominion Live Stock Association.

Farmers' notes discounted

Drafts issued payable at all points in Canada, and the
principal cities in the United States, Great Britain
France, Bermuda, etc.

SAVINGS BANK DEPARTMENT

Deposits of \$1.00 and upwards received and current
rate of interest allowed.

Interest added to the principal at the end of May
and November in each year.

Special attention given to Collection of Commercial
Papers and Farmers' Sale Notes.

J. M. DUFF, - Manager

Education

Begins when the boy starts to learn his A. B. C.'s, and the man cannot be said to be wholly educated until he has learned to dress becomingly and withal fashionably.

We are recognized authorities on dress, and will be pleased to be your tailor. Our prices are the lowest compatible with good cloth, good trimmings and good workmanship.

Your patronage solicited.

J. A. SCOTT

Designer of
Men's Garments.

Well-Dressed Men

The well-dressed man is the successful man of the day. A good appearance counts for a great deal in these particular times, and a little care about neat and well-fitting garments is one of the best investments a young man can make. Have your clothes made to order by first-class custom tailors.

Talk With
Keleher & Hendley

A Great Stock of FURS to pick from, and we carry the finest. Our maxim is "Straight Goods and Straight Prices," which will win in any market. Fur-lined coats a specialty.

GOLDEN FLEECE.

Agents for best makes Hats, Shirts and Ties.

We have a very complete stock

— OF —

Entomological

— AND —

Botanical Supplies

For Students. At Students' Prices.

ALEX. STEWART,

Chemist, - Next Post Office

Save
150
Cents

The first 25 students from O. A. C. or Macdonald Institute buying Fountain Pens from me, will get a regular \$3.00 pen for \$1.50.

PHOTO GOODS

A complete assortment. We develop and print negatives for amateurs. Kodaks rented. Remember the place.

PETRIE'S Drug Store.

Ocean Steamship

Tickets



SOLD ON ALL LINES TO ALL
PARTS OF THE WORLD

JOHN DAVIDSON

Market Square, Guelph, Ont

LEE WING CHINESE LAUNDRY



**THE BEST WORK
IN THE CITY.**

132 Quebec Street, Opposite
Chalmers' Church.



Wash every Monday, Wednesday and Friday. Iron every Tuesday, Thursday and Saturday.

We guarantee best work in the city, having latest improved machinery for ironing collars and cuffs, which will not crack or break the wing.

Shirt collars ironed straight, so as not to hurt the neck. Stand-up collars ironed without being broken in the wing. Ties done to look like new.

Please call and try. Parcels called for and delivered to any part of the city.

Call at College, Monday, Wednesday and Friday.

Phone 508.

GUELPH - - - - - ONT.



Guelph's
Big
Hardware
Store

If
You
Want
Anything
in
Hardware
or
Sporting
Goods,
We
Have
It.

The Bond Hardware Co.

Limited.

J. D. McKee

Phm. B.

20 Lower Wyndham Street

Druggist, Stationer & Bookseller

The place to procure your every
requirement in

Text Books and Supplies.

Drugs, Patent Medicines, Toilet
Articles, Shaving Goods, Etc., Etc.

Stationery, Newspapers, Magazines,
Music, Bibles, Hymnals and Fancy
Goods.

Fountain Pens, all kinds, all prices.

REMEMBER THE PLACE.

J. D. McKEE.

THE BELL ART PIANO

CANADA'S BEST

Used in Colleges, Schools, Theatres, Churches and
in nearly Sixteen Thousand Homes.

Catalog Free



GUELPH
TORONTO OTTAWA
LONDON, Eng.

STALL No. 3, GUELPH MARKET

ALFRED HALES

Wholesale and Retail Dealer in

**Fresh Meats. Pickled Beef and Tongues,
Poultry for the Students a Specialty,
Fresh Pork, Hams, Bacon, Lard,
Sausages and Bologna**
Shop—Telephone 191 Residence—Telephone 405

Three Important Books

MOUNTAIN WILDFLOWERS OF CANADA

By JULIA W. HENSHAW.

A popular guide to the flowers that bloom above the clouds; with colored frontispiece and one hundred black and white full-page illustrations, all done from the original photographs taken by the author at high altitudes.

Cloth \$2.00 Net, Postpaid.

STUDIES OF PLANT LIFE IN CANADA

By the Late CATHARINE PARR TRAILL, With Illustrations Drawn from Nature by
MRS. AGNES (FITZ-GIBBON) CHAMBERLIN.

Comprising eight full-page engravings in the natural colors, and twelve in black and white. "Studies in Plant Life" is a book to be valued by the student of botany, as well as by the untutored lover of flowers. The descriptions so delightfully written by Mrs. Trill, joined with Mrs. Chamberlin's artistic reproductions of the floral beauties, make a volume of rare interest and charm.

Cloth, \$2.00 Postpaid.

A New Edition of CANADIAN DAIRYING

By HENRY H. DEAN.

Professor of Dairy Husbandry in the Ontario Agricultural College, Guelph.

This is one of the books the dairyman cannot do without. It has just been issued in a new, revised and enlarged edition.

Cloth \$1.00 postpaid.

WILLIAM BRIGGS

PUBLISHER

29-33 RICHMOND ST. WEST

TORONTO.

HIGHWAY BRIDGES

Pin Spans

Swing Bridges
Riveted SpansDeck Spans
Through Spans

Beam Spans



We manufacture and erect Structural Steel for Office Buildings, Warehouses, Mill Buildings, Power Plants, Etc., and also furnish miscellaneous Structural Jobs and Orders, fitted or cut to size, as required by Manufacturers, Engineers, Architects, Contractors and Builders.

Prices, Estimates, Plans and other information cheerfully given on application.

Hamilton Bridge Works Co., Ltd.

HAMILTON, CANADA.

Spramotor

for Whitewashing
or Painting

Will apply any kind of paint or whitewash and spread it evenly and thoroughly. Will paint the largest barn in half a day.

Made in four styles and 35 sizes, at from \$10 to \$300.

Send for booklet H.
Agents wanted.

SPRAMOTOR
CO.
BUFFALO, N. Y.
LONDON CAN.



The Guelph Radial Railway Co.

TIME TABLE

Cars leave College Landing for City as follows :

A. M.—6.25, 6.45, 7.05, 7.30, 7.50, 8.10, 8.35, 8.55, 9.20, 9.40, 10.00, 10.25, 10.45, 11.05, 11.30, 11.50.

P. M.—12.15, 12.35, 12.55, 1.15, 1.40, 2.00, 2.20, 2.45, 3.05, 3.30, 3.50, 4.15, 4.35, 5.00, 5.25, 5.50, 6.15, 6.40, 7.00, 7.20, 7.45, 8.05, 8.25, 8.45, 9.10, 9.30, 9.50, 10.15, 10.35, *10.55.

Returning, cars leave St. George's Square 10 minutes later. *Saturday night only.

EVERYTHING

= in the =

Sheet Metal Line

Either kept in stock or made to order, for the Home, Factory or Farm. Agents for the famous Stransley Enamelware, Gurney's Oxford Stoves and Ranges, etc.

H. OCCOMORE & CO. -- GUELPH.

HEADQUARTERS

FOR HARDWARE AND
SPORTING GOODS AT
LOWEST PRICES

G A. RICHARDSON

Upper Wyndham Street, GUELPH

NEILL THE SHOE MAN

SOLE AGENT FOR

THE
SLATER SHOE

GUELPH, - ONTARIO

REED BROS.

Successors to A. Matthews

: Manufacturers of :

High-Class Mineral and
Aerated Waters

DUNDAS ROAD - - GUELPH.

Syphon Soda Water a specialty.

Thornton & Douglas

Limited



Makers and Importers of

Wearing Apparel for Men and Boys.
Dairy Suits a Specialty.



GUELPH

STRATFORD

CHATHAM

IF YOU WANT

School Apparatus and Supplies

WRITE

The Steinberger-Hendry Co.

37 Richmond Street West

TORONTO - - - ONTARIO.



SOLE AGENTS FOR
The Queen Quality
The Just Wright
The Hagar
The Boston Shoe

W. McLaren & Co.

Our Groceries

— ARE ALWAYS —

Fresh, Wholesome and
Strictly First Class.

17 Lower Wyndham.

Telephone 112.

Jackson & Son.

Craigieburn Stock Farm

CLYDESDALES, SHORTHORNS and SHROPSHIRE

Forty-two imported Clydesdale fillies just landed, and offered at living prices. For particulars apply to

G. A. BRODIE

BETHESDA ONTARIO.

Stations:

Stouffville, G. T. R.; Claremont, C. P. R.
Independent telephone service to residence.

CLYDESDALES

SMITH & RICHARDSON
COLUMBUS, ONT.

Importers of Clydesdale Horses

Now on hand a great number
of Stallions and Mares, among
them several Scotch Winners

R. R. Stations—G. T. R.—Oshawa.
Brooklin
C. P. R.—Myrtle

LONG DISTANCE PHONE at RESIDENCE

Oak Lodge Yorkshires



The Profitable
Type of Bacon
Hog.

Stock of all ages
for sale at all
times.

Quality Guaranteed.

Long Distance Phone at the Farm

J. E. BRETHOUR
BURFORD, ONTARIO

PINE GROVE STOCK FARM

Rockland, Ontario, Canada

BREEDERS OF CHOICE

SCOTCH SHORTHORNS
and SHROPSHIRE

W. C. EDWARDS & CO., Limited
PROPRIETORS

JAMES SMITH, Superintendent.

Alva Farm Guernseys

Awarded First Prize at Montreal
for Breeder's Young Herd

Young Animals of Merit For Sale

Pedigrees and particulars to parties
wishing to purchase. Address:—

SYDNEY FISHER, Knowlton, Que.

J. DRYDEN & SON

Maple Shade Farm BROOKLIN, ONTARIO

Home of the oldest and largest herd
of Cruickshank Shorthorns in America.
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Station—C. P. R., Myrtle, 3 miles.

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Book Review.

DWARF FRUIT TREES

By F. A. Waugh, Professor of Horticulture and Landscape Gardening, Massachusetts Agricultural College. Illustrated: 125 pages 5x7 inches. Cloth. Price, post-paid, 50 cents. Published by the Orange Judd Co., New York.

In these days when so much is being written about commercial fruit growing, we are apt to overlook the fact that for every one engaged in the growing of fruit for sale, there are probably a score who are in it for the pure satisfaction of growing the fruit for themselves. The amateur is certainly deserving of more attention than he usually receives at the hand of the general writer. In this little book on Dwarf Fruit Trees, the amateur, and particularly the suburban gardener, will find something of especial interest.

Dwarf fruit trees have been tested for many years under varied conditions and many writers have discussed their merits and demerits, but Professor Waugh has given us the best yet published on the subject. He speaks enthusiastically of their possibilities, yet frankly admits their limitations. In thirteen chapters he treats fully upon the propagation, pruning, and general management of all kinds of dwarf fruit trees grown in this country. The vein of humor which runs through most of Professor Waugh's writings, is here quite evident, and the result is a book not only of general information but interesting reading.

H. L. HUTT.

Modern Methods of Testing Milk and Milk Products

By Dr. L. L. Van Slyke, Geneva, New York, U. S. A., and published by the Orange Judd Co., is a new work on milk testing, which is claiming the attention of dairymen. Its author is the well-known chemist of the Agricultural Experiment Station in the State of New York. The typographical part of the work is excellent, but no more than we should expect from this well-known firm of publishers of agricultural books.

The clear and concise style of the author is to be commended in these days of "padding" in order to make copy. However, the task set for himself by the writer of the book was a difficult one, inasmuch as there is practically nothing new to be written on the subjects discussed, at the present time. The ground has been so thoroughly covered in previous works that one looks in vain for a new suggestion on what may be

called the first principles of testing dairy products. The Babcock test has been described so fully in journal, bulletin and book, that there is nothing left to be said or written about it.

On page 18 we have a marked example of the weakness of many scientific men when writing for, or speaking to, a practical audience. The example in this case reads: "Standard milk fat or butter fat has a Reichert-Meissl number not less than twenty-four" etc. How many cheese and buttermakers know what a "Reichert-Meissl number" is?

We do not agree with the author when he says, (page 31), "The custom practised by some of testing composite samples only once a month should be severely condemned," as we know from practical experience the monthly composite samples are quite satisfactory and tend to lessen very much the labor of testing.

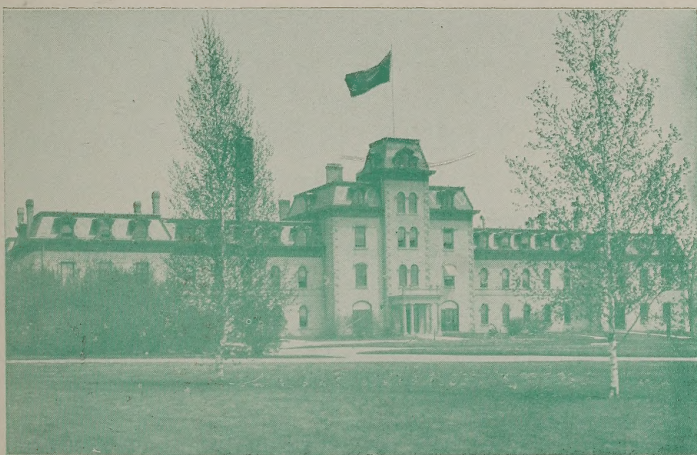
The author, in his great desire to boom the Babcock test, is led to make a statement on page 32, which is scarcely in accordance with the facts. The statement reads: "There are in use —, other tests, which are more or less imitations or modifications of the Babcock test, such as the Gerber." If we remember rightly, Dr. Gerber in Europe worked out his test independently and before or about the same time as Babcock, therefore, the Gerber could not be an "imitation or modification" of any other test.

Very serious objection may be taken to the suggestion on page 132 to reduce the score of milk by "one point for each .1 per cent fat below 4 per cent of fat and 9 per cent of solids not fat." Comparing milk, testing 3.5 per cent with 4 per cent milk, we should have the former reduced 5 points or over 11 per cent. There is evidently not this difference in the food values of the two milks. All scores of dairy products should aim to give their relative values as commercial or food products. Also the point is not very clear as to what are the relative values of "fat and solids not fat." We have assumed that the fat is the controlling factor, which we understand is the author's view on this point, therefore, it was scarcely necessary to mention the "solids not fat."

It may well be questioned whether or not "commercial testing of milk, cream, butter and cheese," may be legitimately introduced in a work professing to deal with practical, chemical and physical problems in dairying.

Had the author used his well-known skill and learning in producing a book in plain language on the Chemistry of Dairying, it would have been welcomed by dairy students everywhere. As it is, we have a surplus of books, bulletins, etc., dealing with the practical part of "Testing Milk and Its Products."

H. H. D.



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And roasted Mary so,
That straightway went the dairy maid
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